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PRACTICAL OBSERVATIONS

ON THE

TREATMENT

OF

STRICTURES IN THE URETHRA,

AND

IN THE ŒSOPHAGUS.

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BY

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VOL. II.

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— Omne per ignem  
Excoquitur vitium. —

VIRG. GEORG.

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*Enfayan Rajal 1827*

TO

DOCTOR DAVID PITCAIRN.



MY DEAR FRIEND,

THE following Volume is dedicated to you as a mark of esteem. At an earlier period of my life my dedicating a work to a Physician, whose character has long been so high in the public estimation, might have raised a suspicion that the motives were of an interested nature; at present I trust they will be considered as those only of personal regard.

You were one of my earliest medical acquaintances, and while prosecuting my studies I looked up



to you as a model for imitation; you are now one of the oldest and most intimate of my friends.

My zeal for my profession leads me to hope, that the reputation you have so justly acquired will induce other practitioners of medicine to imitate your conduct, and thereby ensure their success.

I remain,

Your very sincere friend

and humble servant,

EVERARD HOME.

*Sackville Street,*

*September 20th, 1803.*

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## INTRODUCTION.

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IN the first Volume of this Work, I have spoken fully of the more common cases of stricture, and the mode of treating them. In the present, it is my intention to prosecute the subject by explaining such varieties in the progress of the disease, enumerating such symptoms, and taking notice of such complications, as have come to my knowledge since that Volume was published.

By communicating to the Public these additional observations; I hope to impress upon the minds of practitioners the importance of the inquiry; and confirm the idea, that a considerable degree of knowledge of the disease, joined to experience in the mode of treatment, becomes necessary to ensure success.



While I am thus affording materials for the assistance of those surgeons, whose anatomical education and professional acquirements qualify them for following the mode of treatment I have recommended, I wish to deter others, who from a want of these advantages are not adequate to the task, and who may be led, by a temerity too often an attendant upon ignorance, to use more violence than the parts will bear, and increase the sufferings of the patient, at the same time that they are throwing a discredit upon the practice it was their intention to recommend and support.

It is not my intention to notice, in general, any of the publications in which my observations on this subject have been opposed: I have no wish to enter into controversy, and am very well satisfied that the public should judge between us by an impartial consideration of our works. But Mr. Benjamin Bell of Edinburgh, in a work upon the Venereal Disease, has gone so far as to caution the public against this mode of operation, by

declaring, "that he considers the practice as attended with danger, and not likely often to answer the purpose."\* He thought proper also to send me his book, thus in some measure calling upon me for a vindication of the opposite opinion. This provocation, from a person to whom I am personally unknown, has induced me to do, what under any other circumstances I should have thought improper, which is, to subjoin a correspondence we have since had, upon a case of this disease. As this correspondence took place in the year 1799, there has been ample time for Mr. Bell, either publicly or privately, to avow his error; which, in the work above-mentioned, he had pledged himself to do if the occasion should arise. The evidence against his opinion is made the stronger, because the patient, to whom I allude, continues to live in his neighbourhood.

\* A Treatise on Gonorrhœa Virulenta, and Lues Venerea, by Benjamin Bell. Vol. I. p. 306.

DEAR SIR,

*Edinburgh, 19th August, 1799.*

This will be given you by a gentleman of this neighbourhood, who for a considerable time past has laboured under a variety of symptoms, of a nature both distressful and alarming; and which, in a great measure, have resisted all the measures we have employed for them. As he will now be under your care, I conclude that you will wish to be informed of the leading circumstances of his situation, and of the means which hitherto have been used by those under whose charge he has been.

The patient will give you a full and accurate detail of the rise and progress of his symptoms, of his having suffered severely with irregular febrile attacks, and with a very irritable state of his stomach and bowels; but the symptoms for which he more particularly applies to you, proceed evidently from a diseased state of the organs of urine, strictures in the urethra, and, I am afraid, real disease of the bladder itself.



Upwards of twenty years ago, he discovered strictures in the urethra, but till of late, they never gave him any material distress; and he being the patient of another surgeon, I was not called to him till the winter of the present year, at which time he appeared to be in a considerable degree of danger. His symptoms then were a frequent discharge of foetid urine, which came off in a small stream, requiring half an hour or more to empty his bladder; and the urine, on becoming cold, deposited a very large proportion (often a third of its whole quantity) of real mucus, which we frequently meet with in the disease termed *Catarrhus Vesicae*, so viscid, that it could scarcely be separated from the pot, and often accompanied with considerable quantities of purulent matter. He being at that time much emaciated, the bladder was distinguished above the pubes; it was greatly enlarged, hard, and very painful to the touch. By the finger in ano, the prostate was found enlarged. His strength was so much reduced, that he could not

move from his bed; the degree of fever that took place was very considerable.

Under those circumstances, the hopes of a recovery were not great; almost all indeed that we expected was, that he might be relieved of the difficulty of passing his urine, if the strictures in the urethra could be removed, and in so far as the diseased state of the bladder depended on them, that it also might be relieved. Bougies were accordingly tried, by which the strictures in the anterior part of the urethra were removed, and the passage was thus made completely pervious to the height of six inches and a half; but further than this, neither common bougies, those formed of the elastic gum, or the London bougie armed with caustic, could ever be passed, although all of them got as full a trial as was admissible in a constitution extremely irritable, as you will find on trial this patient to be.

He is so anxious to have the stricture removed, that he will bear any degree of pain; but the effects of it are so violent, that I

have often been obliged to desist for a week or two together from the use of the bougies of every kind. In some instances the slightest application, even of a soft bougie, whether armed with caustic or not, excited a severe ague. In this situation, from no further progress being made with bougies or caustic, and his state of health requiring country air, we judged it right to advise him to remain in the country during all the months of summer. This he has accordingly done, by which he has recovered a great deal of flesh and strength; but the passing of his water having become worse since the bougies were laid aside, owing perhaps to the strictures in the anterior part of the urethra having in some degree returned, he has therefore determined on going to London, where I most sincerely hope that through your assistance he will get entirely well. I am fully convinced, however, if this is ever to happen, that it can only be by long and constant perseverance in the use of bougies, whether armed with caustic or not; and the chief



doubt, that occurs against the use of them in this manner, is the morbid state of the contiguous parts, I mean of the prostate gland and perhaps of the bladder itself, connected with the very irritable state of his nervous system, of which I have already taken notice.

With the view of lessening this distressful degree of irritability, various means have been tried; opiates, hyoscyamus, and hemlock were used, with no benefit however in any manner of way. *Uva ursi* was given with the view of lessening the discharge of viscid mucus from the bladder; mercury was also tried, but no advantage resulted from either.

The physician who attended along with me had frequent occasion to prescribe for his febrile symptoms; but the circumstances that I have noticed are all that appear to be necessary for me to communicate.

I remain,

with much esteem, &c.

BENJAMIN BELL.

P.S. I shall take it as a particular favour, if, after making yourself fully master of the case, and having made some trials for the removal of the stricture, you will be so good as let me hear from you, with your opinion of the chance that there is of a recovery.

DEAR SIR,

*Sackville-street, Sept. 19th, 1799*

The condemnation of my mode of treating strictures, published in your last work, flattered me exceedingly; as it is an evidence upon record of my having acquired a more extensive knowledge of the disease, than had been attained by the surgeons in Edinburgh.

After such a decision, success was hardly to be expected from the use of the caustic in your hands: it will however gratify the feelings of a man of your humanity to learn, that five applications of the armed bougie, without the aid of internal medicines, have enabled the patient to pass a full sized bougie into his own bladder; and as all his other complaints have left him, you will agree in

believing that they must have been symptomatic of the stricture in the urethra.

I am, Dear Sir,  
your obedient  
and very humble servant,  
EVERARD HOME.

In my former Volume, I endeavoured to establish a mode of practice which had met with much and violent opposition; I therefore felt myself called upon to multiply cases under all the different circumstances, that there might be a sufficient mass of evidence, on which any person of an unprejudiced mind might form an impartial judgment.

At present, it is not my intention to give more than one or two cases as examples under the different heads of this Volume; these will be selected as the most illustrative of the particular circumstances they are meant to explain. They are, however, by no means, to be considered as all the evidence I had procured on the subject, but merely as all that



was necessary to establish the facts that were adduced.

I will not venture to assert, that I have been able to give a complete history of this most distressing disease: that I have not done so arises from the extent of the subject, and not from the want of any labour or exertion on my part, by which so great an object could be effected.



# ON STRICTURES, &c.

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## CHAPTER I.

### GENERAL OBSERVATIONS.

THE investigation of strictures in the urethra throws more light upon the œconomy of diseases, than can be derived from the consideration of any other complaint which comes under the direction of the surgeon.

In local diseases, it is often difficult and sometimes impossible to ascertain, whether the constitutional affections that are met with are in reality symptomatic of the local irritation, or belong to some new disease which has been super-induced; and for want of some criterion to guide our judgment in the investigation of diseases, we too often mistake the occasional symptoms for the



disease itself, which, from the obscurity of its situation, or its apparent insignificance, is totally neglected.

Practitioners who are not in the habit of investigating diseases, but are satisfied with treating the symptoms which present themselves, are naturally very often led into this error. The constitutional symptoms, which belong to a stricture in the urethra, have been more frequently mistaken for an original disease, than those of any other local complaint; and it is only within these few years, that this error has been detected. I have been enabled to determine that the following constitutional affections which I shall soon mention, occasionally belong to strictures in the urethra, by three different modes. The first is, that patients are liable to them while labouring under that disease: the second, that they very often are brought on in the course of a few hours after an armed bougie has been applied to the stricture; and whenever they follow such an application, it has been found that the symptom

then produced has, at a former period, been met with in the same patient. The third is, that after the removal of the stricture the symptoms disappear, although the patient had been liable to them for a number of years. Such evidence, when collected upon a large scale by a person of extensive experience, can admit of little if any fallacy.

The most frequent of these constitutional symptoms is a regular feverish paroxysm, resembling those of intermittent fever, only more violent. When the paroxysm is complete, and the sweating fit very profuse, there is no succeeding fit for several days; but when that is not the case, there is a second, and sometimes a third, before the attack goes off.

In one instance, there was a succession of paroxysms till the patient was nearly exhausted; the last of these came on almost immediately after sucking a lemon, and it was several weeks before he recovered his strength.

In another instance, the perspiration was

so very profuse for fourteen days, that during the whole period the patient never passed a drop of urine: the first time the kidneys began again to secrete, the fluid was as thick as blood, and was voided with great pain.

The next symptom in frequency is feverish indisposition, coming on regularly every evening, attended with restlessness, and going off towards morning: this will continue for a week or longer, and then go off, returning at uncertain intervals.

Other symptoms are; a state of general nervous irritation, attended with impatience, quickness of temper, anxiety and great despondency, in some instances bordering upon insanity; delirium lasting for two or three hours, and then going off; irritation in the stomach coming on at a particular hour in the twenty-four, and lasting two or three hours; a costive habit of body, with an uneasy state of the bowels; sciatica. Hysterics are sometimes an attendant on the disease, and have in such instances been



brought on by the application of the caustic. Epilepsy in one instance occurred. Attacks of erysipelas on the head and face; inflammation of the tonsils and throat; and eruptions on the skin, with discolouration of the cuticle now and then take place.

As the cases in which the patients have been liable to these different affections are mentioned at length, it is only necessary here to bring all such symptoms into one view, to shew the connection between the urethra and the body at large, and the variety of effects which can and do arise from an irritation upon so small a part of that canal; and this sometimes, even when there is no sensation in the part, and the patient is himself unconscious of its being in a diseased state.

As some of the constitutional affections above mentioned arising from stricture very frequently occur, and have in a great many instances been treated as original independant diseases, both by physicians and surgeons, of eminence as well as of ability, it has afforded an opportunity of deciding a point

which appears to be of no small importance in general practice; that when symptomatic, they do not yield to the modes of treatment by which they have been removed when arising from other causes. The intermittent fever attendant upon stricture is not prevented from returning by the use of bark or arsenic; and the only medicine I have found useful in completely carrying off the symptoms is a purgative draught. That which I have generally used is composed of infusion of senna, tincture of senna, and soluble tartar.

If all constitutions were alike, the symptoms of stricture would be very few, and the mode of treatment would be comprised in a small compass. But, as it is a disease in a part which has so much power of influencing the constitution, and is itself so variously affected in different patients, the history of the symptoms becomes extremely extensive, as it can only be collected from an infinite number of cases; and the modes of treatment, fitted for all its varieties, can only be explained

by giving the cases themselves, in which such varieties have occurred.

A stricture in the urethra undergoes changes within itself, frequently proportioned to the length of its continuance, but not always so; by which the cure is rendered more tedious, and more difficult, and in some instances, impossible. In its first state, it is only a membranous partition, formed in the manner already explained; but in process of time, in some cases, this membrane becomes of the consistence of ligament. I have even met with it upon dissection, as hard as cartilage; and unfortunately, this disposition for induration sometimes extends itself into the surrounding parts. It also happens, that two strictures half an inch from each other, or at a still greater distance, when much contracted, have the space between them diminished in its capacity; and the membrane of this intermediate portion of the canal is rendered thicker than the rest of the urethra; so that with respect to its removal, it may be considered as one continued stricture.



The mode of treating such cases by caustic, which has been by many considered as too violent, is often found in practice much too mild to ensure success.

These cases require all the anatomical skill a surgeon can possess. They require all the manual dexterity experience can teach, to prevent his getting out of the proper canal before he is able to remove the obstruction; and when he does unfortunately happen to leave the right road, he forms a false passage in the space between the bulb of the urethra and the fundament, which renders the case infinitely worse than before, as he has put it out of the power of any other person to prosecute the cure by the same means.

This mode of treating strictures having been in use now for eight years, a sufficient time has elapsed to admit of some conclusion being drawn respecting the consequences which are produced by it, and the permanency of its effects; and so great has been the number of those who have

submitted to it, that notwithstanding the many difficulties which still attend the subject, the following conclusions are given as formed upon a very extensive series of observations.

That it does not dispose the parts to take on any other disease is sufficiently established, as there is no one instance within my observation in which that has been the case.

That the parts recover themselves after the use of caustic, and acquire the natural smooth surface they originally possessed in common with the rest of the urethra, is also completely ascertained.

That removing the strictures restores the parts to all their natural functions has been proved by the effect on patients in a married state, who had for years palliated the symptoms by means of bougies, and during that period, had not begot children; but who were afterwards capable of doing so during the same marriage.

These are the essential points which could not be determined by any reasoning, and

were therefore only to be ascertained by experience.

The permanency of the cure is also a consideration of the utmost magnitude; I shall therefore give a candid account of the results that have come within my observation.

In many instances in which the cure was performed in the earliest period of this practice, there has been no return of the disease, and the functions of the urethra and bladder have continued entire.

In many, very many cases, there has been a return; the causes of which I shall endeavour to enumerate.

Where a patient has a stricture removed by caustic in an early stage of the complaint, and no other disease is afterwards contracted, there is no probability of his having a return of the stricture, and an instance of the cure continuing for nineteen years has been already stated in the former Volume; but under the following circumstances, the stricture is found to return.

Where the patient has contracted a fresh



gonorrhœa, and makes use of an injection for its cure. Where the inflammation of gonorrhœa, with or without the use of injections, leaves the common seat of that disease, and fixes itself on the seat of the stricture, which is not uncommonly the case.

These are the most common causes of return of stricture. It therefore becomes necessary to explain the reasons why they produce it, and to shew that such returns are not to be considered as in any respect invalidating the cure which had been previously performed. The removal of a stricture consists of two distinct parts; one is destroying the projecting rim by which the canal of the urethra had been straitened in its diameter; the other, taking off from the parts which remain a disposition for contraction, acquired by disease. Although these have been both completely accomplished, it is to be understood, that the very same part still retains the natural action which is necessary in the act of generation,

to prevent the semen from a retrograde motion, at the time of its expulsion; and therefore, that this part is now more liable, than previously to the formation of stricture, to a recurrence of disease upon any new irritation being excited, or any fresh inflammation being produced.

The gout has so much influence over the urethra, that a patient, who has had strictures removed by the caustic, is liable to a return of that contraction in almost every fit of the gout; and consequently, cannot be relieved from this disease in the same degree as other patients. The effect of the gout will vary in every different constitution, producing a greater or less degree of contraction in the urethra during the paroxysm, and leaving the parts more or less disposed to contraction after the fit goes off. In some instances of gout, the recurrence of the disease has rendered the removal of stricture impracticable; in others, the disease has been, in appearance, completely removed; but in the next attack of gout,

these symptoms have all returned, and the bougie has not only been rejected while the paroxysm lasted, but after it went off the greater part of the benefit derived from the caustic appeared to be lost. That this, however, has been entirely the case I am inclined to doubt, believing the patient's disappointment to have magnified the evil.

Where the stricture had been of long continuance, there is an effect which at the first view seems to be an evident return of the stricture. The parts to which the caustic had been applied, in consequence of the repeated applications have the coats of the urethra consolidated together, and therefore rendered less pliant than they were previously to their having been diseased. So that, after the canal at this part has been brought upon a plane with the rest of the urethra, the force employed by the bladder, being proportioned to the resistance met with, is now diminished according to the increased facility with which the urine is allowed to pass out ; and therefore, this part, which is



of necessity less pliant and less perfect in its natural actions than the rest of the urethra, is not equally relaxed with the other parts, and remains in a middle state, neither so much relaxed as it ought to be, nor so much contracted as to bring on symptoms of uneasiness upon the bladder ; and if allowed to remain for months or years in this state, according to the general principle upon which all muscular parts have their actions regulated, it becomes fixed in that state, producing a return of stricture. Even in this situation, in many instances, passing a bougie a few times relaxes it to the state of the rest of the urethra ; in others, however, a return of stricture is produced, and it becomes necessary to recur to the use of the caustic for the completion of the cure.

To prevent this effect, with which I was not sufficiently acquainted when the first volume of this work was published, it is highly proper to pass a bougie occasionally, varying the frequency according to the peculiarities of different constitutions, with

a view to prevent the parts from falling into this middle state of contraction; exactly in the same way as passive motion becomes necessary, in cases of diseased joints, for a long time after the disease has been removed, to prevent their becoming stiff. In such cases, passing a bougie must be considered as a substitute for making water in a full stream.

In cases of this description, I have been informed by surgeons in the country of my patients having had a relapse after the use of the caustic, and that they had been fortunate enough to make a complete cure by the bougie. In answer to such letters I have requested to know how often the bougie had been used for that purpose, and found that employing it twice or three times was sufficient, which explained to me what had happened; and led me to instruct my patients to pass a bougie occasionally to prevent such an effect from taking place.

## CHAPTER. II.

AFFECTIONS OF THE URETHRA WHICH HAVE BEEN MISTAKEN FOR STRICTURES AND TREATED AS SUCH.

IN the natural healthy state of the urethra, when it is free from irritation, a bougie passes with great ease along the canal into the bladder; and the larger the size of the bougie, the more readily will it pass, as it is less liable to be obstructed by the orifices of the lacunæ, or the irregularities which it meets with at the caput gallinæ. Upon this principle I have recommended the use of large bougies; and indeed if the bougie is not of the size of the passage, the true state of the canal can never be ascertained. It is however to be understood, that a large bougie, being much less pliant than a small one, is to be passed in a very different manner. The



small one, from being weaker in its substance, is readily bent by pressure, and is rendered very soft by simply passing along the urethra ; so that when it arrives at the curve, a very small increase of force adapts it to the turn it must necessarily take to arrive at the bladder. A straight bougie of such size is adapted to the curvature of the urethra by being simply passed along it ; but a straight bougie of a larger size will necessarily have its point caught in the hollow at the bend, and so be stopped in its progress ; and this circumstance may deceive the surgeon, and lead him to believe that there is a stricture in the urethra.

To avoid this mistake, which is not unfrequently made, the point of the bougie should be so bent that the last two inches may form a portion of a circle ; and in inserting the bougie, as well as guiding it along towards the bend, care should be taken to prevent this portion from being straightened. When it arrives at that part,

it readily adapts itself to it, and goes with ease into the bladder, a small force varying the curve of the bougie to that of the canal.

In many patients, the hollow at the bulb is so formed as to receive the point of a small sized bougie, even when it has been curved, and therefore may not only give the surgeon a suspicion, but make him decided in his opinion of a stricture being present; nor has the fallacy been discovered till a bougie twice the size of the former has passed into the bladder. This error occurs more commonly than the other, and some of the best surgeons have fallen into it, very many instances of which have come under my observation.

When this happens in a less degree, the end of the bougie rests for a moment at the bulb, and then passes suddenly over it. This has also misled many practitioners, who supposed that there was a slight degree of stricture, and recommended the use of bougies for its removal. To ascertain

that this is not in reality a stricture, it is only necessary to pass a bougie of a larger size with the point of it curved, which will meet with a less obstruction than the smaller one; and after it has got into the bladder, whatever opposition it met with in going in, it admits of being withdrawn without any difficulty; whereas when a bougie has been forced through a stricture, it becomes grasped by it, and some force is necessary to withdraw it.

The urethra is liable to be irritated by a variety of causes, and whenever it is in that state, the symptoms which arise have a certain degree of resemblance to those of stricture. This observation was noticed in the former volume; but at that time I was not aware that such irritations, when very violent, or recent, might produce a degree of sensibility, and spasms upon different parts of the canal, which would afterwards go off along with the irritation. This however I now have ascertained to be true, and this occasional symptom has sometimes been mistaken for stricture.



Any person in perfect health may upon exposure to cold, or other circumstances, bring on a temporary suppression of urine: this will perhaps last for about an hour, and leave a frequent desire to make water for several hours, after which it shall gradually subside, and is most readily carried off by the use of a clyster of warm water. If a bougie had been passed at this time, it would have met with difficulty, and in some instances would not have been able to overcome the resistance.

These attacks go off in general completely, and the patient is not liable to a recurrence of them. I have however met with two or three instances where the parts have remained in an irritated state; but by passing a bougie or catheter so as to force open the contractions of the internal membrane which had taken place at the time of the spasm, the symptoms have gone intirely off, and there has been no return.

A gentleman from the country consulted me on account of an uneasy sensation in

the urethra, attended with a difficulty in passing his water; these symptoms had continued for several months with very little change. I introduced a bougie of a full size, which did not pass readily, but went on into the bladder, and was not grasped in the slightest degree at the time it was withdrawn. In two days, all the symptoms had gone off, and the same bougie passed with the greatest ease. There was no return of the complaint while he remained in town, which was about a fortnight, and he went home perfectly well. Several similar instances have come under my observation.

## SECTION I.

IRRITATIONS IN THE URETHRA PRODUCED  
BY DIFFERENT SUBSTANCES TAKEN INTO  
THE STOMACH.

THERE are many liquors and other substances which, when taken into the stomach, have an immediate effect upon the urethra, producing a slight discharge, frequency in making water, and other symptoms which have led the patient to suspect his having a stricture, and to request my opinion upon that subject. Ginger has this effect in a considerable degree ; this was first noticed by a gentleman, who was led to take it as a medicine for the gout, and was astonished to find all the symptoms of common gonorrhœa come on, which went away on leaving off the medicine.

A gentleman who had a stricture, and was advised, on account of the irritable



state of his stomach, to take ginger tea, found all the symptoms of the stricture very much increased; but one day that he was accidentally prevented from taking the ginger, they were found to be milder, and the next upon resuming it to be again violent, which made him suspect the ginger to be the cause of the aggravation, as was afterwards proved to be the case.

A gentleman consulted me upon a suspicion of his having a stricture. I stated to him that the symptoms were not those of a disease in that canal, but of some irritation accidentally produced, and that therefore he must have been guilty of some irregularity, or have taken something which had disagreed with him, and produced that effect. Upon his declaring it was impossible that any thing of the kind could have happened, I said probably he had taken ginger, which he confessed to be true, and this accounted very sufficiently for his complaints.

Burgundy has in one or two instances,

which came to my knowledge, had a similar effect upon the urethra.

Small beer in one instance produced symptoms so decidedly resembling stricture, that I was requested to pass a bougie for their relief. The patient was between sixty and seventy years of age, which induced me to believe that the use of the bougie could not be necessary. Upon leaving off small beer, the symptoms went away, and did not return. The patient recollected that some years before he had a similar attack, and at that time was in the habit of drinking small beer, it being a liquor particularly pleasant to him; and when the complaint left him, it was during an indisposition which made his physician prohibit him the use of small beer; but he did not at the time suppose this circumstance to be in any way connected with the removal of the complaint.

## SECTION II.

IRRITATION IN THE URETHRA BROUGHT  
ON FROM PILES.

THE vicinity of the neck of the bladder to the fundament renders these two parts very liable to be affected by the complaints, to which either of them is subject. A stricture in the urethra is rarely of long standing without bringing on the piles; and piles, on the other hand, will in many constitutions bring on symptoms in the urethra resembling those of stricture. If a patient has the piles, and they are very much inflamed, it may happen that there shall not only be a difficulty in making water, but that a bougie can not, at the time, be passed into the bladder. The operation of tying piles very often brings on strangury and sometimes suppression of urine. Besides these effects of common



piles, there is another complaint, less frequently met with, which produces them in a greater degree, and for a longer continuance. This is a pendulous excrescence from the internal membrane of the rectum, of the polypus kind, nearly an inch long with a narrow neck, the lower part of which is protruded in the act of going to stool; at other times it either lies immediately within the sphincter muscle, or a portion of it is extended through its orifice.

In two instances of this complaint, the symptoms, were great irritation while walking, and at the end of making water. These symptoms, in one of the cases, were removed by cutting off the excrescence; in the other they were palliated, but the urethra did not entirely recover itself. Both these cases were mistaken for stricture, and bougies had been used; but upon examining the urethra, it was not in any way lessened in its width, although the internal membrane had been rendered

exceedingly irritable by the disease in its neighbourhood.

### SECTION III.

#### TEMPORARY STRICTURES DURING THE INFLAMMATORY STAGE OF GONORRHŒA.

IN the inflammatory stage of gonorrhœa, the whole canal of the urethra is not only in a state of irritation, but those parts which are most liable to spasms are more contracted than the rest, forming temporary strictures; so that when a bougie is attempted to be passed in a case of this kind, if the inflammation is very violent, the internal membrane is so extremely sensible as not to let it go further than the orifice. If the violence of the inflammation has abated, the bougie will perhaps go down to the common situation of strictures; and by waiting a little longer, till the inflammation has subsided, the bougie

shall pass into the bladder without any obstruction whatever.

I was led to ascertain these effects of venereal inflammation, from having found a case of gonorrhœa treated as stricture, which led me to suspect that it was the venereal inflammation that had brought on a temporary contraction, and that the surgeon, not aware of the real cause, had concluded it was a stricture. The case in which I ascertained this circumstance is the following.

A gentleman had a violent gonorrhœa, the orifice of the urethra much inflamed and the whole canal in a state of irritation; at this time a bougie could not be received into the orifice. In seven days the inflammation abated without the use of an injection or other local application; but there was still pain, and frequency in making water, and a copious discharge. A full sized bougie now passed without much pain down to the bulb of the urethra, and there stopped, so as apparently to decide that at that part



there was a stricture. In seven days more, the same bougie was passed again; the inflammation and discharge had now very much subsided, and the bougie went on very readily to the bladder.

This information is of the utmost importance, as many instances have lately come within my observation of the armed bougie being applied a number of times in cases of gonorrhœa in which there was supposed to be a permanent stricture. Of these the following is the most remarkable. A gentleman from India, who had no stricture at the time of his return to England, contracted a gonorrhœa, and put himself under the care of a surgeon. The symptoms were not unusually severe, but did not readily subside. The surgeon suspected there might be a stricture, and passed a bougie before the inflammation of the gonorrhœa had gone off; the bougie stopped at the bulb, and the supposed stricture was now the only disease thought deserving of attention. The armed bougie was applied, but no

amendment took place; it was repeated sixteen times, and still there was no possibility of passing on into the bladder. This circumstance created an alarm in the patient's mind, and he came to London to ask my opinion what was to be done. Upon hearing the circumstances of the case, I declared he had no stricture, and never had had one; that I should find no difficulty in passing a full sized bougie into his bladder; that the whole of his treatment had originated in a mistake, the nature of which I explained. After having done so, I took a full sized bougie, which was much larger than any that had been before used, and by curving it so as to adapt it to the form of the urethra, and to prevent the point from being caught by the cul de sac formed by the use of the armed bougie, it passed with perfect ease into the bladder. This astonished him very much, and he desired my permission to call upon me a day or two after, that he might have it passed again, to satisfy his mind; this was accordingly done,

and by leaving the parts to themselves, all the symptoms went off, and he has continued perfectly well ever since ; a period of two years.

The case above-mentioned is one in which there never had been a stricture, and therefore the symptoms are all clearly ascertained to belong entirely to the venereal inflammation ; but they are met with in a still greater degree in patients who have had strictures, which have either been dilated by bougies, or removed by means of the caustic. In such instances the venereal inflammation in gonorrhœa is of longer continuance, and almost always leaves the urethra more or less contracted, but not in that state which requires the use of the caustic for the removal of the contraction.

This is so generally the case, that I have been induced to recommend to all patients who have laboured under strictures, that they are by no means to have recourse to injections for the cure of any gonorrhœa



they may afterwards contract, but to subdue the inflammatory symptoms by means of internal medicine, abstinence, and quietude, and as soon as the inflammation is gone off, to make use of the bougie, to relax the canal, which had been kept in a state of half contraction during the inflammatory stage of the gonorrhœa.

In some cases of this description, where the natural irritability of the parts is great, the symptoms of the gonorrhœa violent, and where they have suffered much from the former strictures, the venereal inflammation is very tedious. In one instance it was fourteen months before the urethra could admit of a bougie being passed, and even then it only was allowed to go down to the bulb of the urethra, where it was stopped by a temporary stricture. From the circumstances above-mentioned, this contraction was not believed to be a new disease, but the immediate effect of the venereal inflammation. A smaller bougie was therefore introduced, which went on to

the bladder; this was immediately withdrawn. In two days one a size larger was passed without being retained; and on the fourth trial the full sized bougie in use, previously to the appearance of the gonorrhœa, passed with ease into the bladder.

In this case the inflammation certainly had run out to a great length. But where there have been strictures, the venereal inflammation in gonorrhœa, although it begins near the glans penis, is much disposed to run backwards, and when once it arrives at the seat of the former strictures, is with difficulty removed; although the length of its continuance will depend much upon the treatment of the surgeon, but still more upon the conduct and discretion of the patient.

## SECTION IV.

## IRRITATIONS IN THE URÆTHRA IN CONSEQUENCE OF INFLAMMATION OF THE INTERNAL MEMBRANE OF THE BLADDER.

It being well known that any affection of the bladder is capable of producing spasms in the urethra, it could hardly be credited that a mistake should be made, on that point, and such affection of the canal be considered as an original disease, and the use of the armed bougie be resorted to for its removal. This however has been the case; and the application of the caustic to the urethra relieving the distressing symptoms in the bladder has kept up the deception, and made the surgeon persevere in the mode of treatment, although there was no disease in the urethra to which the caustic had been applied.

The following instance of this kind is so



strongly marked in all its parts, that a detail of it will include every thing which I have to remark upon this subject.

A gentleman about thirty-nine years of age, who had resided for many years in the West Indies, laboured under the symptoms of an irritable bladder, which, from the history of the case, appeared to have been brought on by the use of an irritating injection having passed into the bladder. These symptoms were frequency in making water, voiding it in small quantities, and great effort or straining at these times, accompanied by a pain sometimes in the glans penis, and at others just under the frænum. He had suffered so much from this complaint in the West Indies for six or seven years, that he determined to come to England, in hopes of receiving assistance. He consulted a surgeon here who supposed it was a stricture, and attempted to pass a bougie, but failed in getting it into the bladder. There appeared to be an obstruction  $5\frac{1}{2}$  inches from the

external orifice; this discovery was exceedingly satisfactory to the patient, as it gave him hopes of a cure. The case was now decided upon as a case of stricture, and was to be treated by means of the armed bougie. The first application of the caustic, by acting upon the urethra, relieved to a great degree the irritation in the bladder; this gave encouragement. The bougie now passed down to the bulb where it was stopped, and the caustic was applied, which always gave relief by its immediate effect upon the part. The attacks of irritation on the bladder were attended with strangury, and this symptom was invariably taken off by the application of the caustic. It was used fifteen times, without gaining any ground; and the patient being desirous of going to Cheltenham, was permitted to take the management of the armed bougie upon himself, and passed it as the fits of strangury came on. He had a strangury at Oxford, and passed the caustic, which took off the spasm, and he made water; next day

day he had a second attack, and the same mode relieved it, but a violent hæmorrhage succeeded; on the following day the bleeding returned. For several subsequent days there was a slight bleeding after every time of making water, by which he was so much reduced, as to be unable to leave his bed for ten days.

In this state he came to town, and put himself under my care. He was now very much emaciated, and appeared to be in a state beyond recovery, independently of the state of the complaint in his bladder. Upon examining the urethra by a bougie, this could not be passed beyond the bulb of the urethra; I could not however procure any impression upon the point of it so as to satisfy my mind of the real state of the part. He requested me to use the caustic, as the only means of giving him ease from the distressing pain he had at the glans penis; and upon applying it, he found himself next day easier. I made several attempts to get an impression of the



stricture upon the bougie, but in vain; and always applied the caustic, to give my patient a temporary relief. After using the bougie four or five times, I passed a silver catheter of a size larger than the bougie I had used, and found that it went with perfect ease into the bladder. This explained to me the present state of the case; and I informed the patient, that there was now no stricture, the passage was perfectly open, and the whole of the remaining disease was in the internal membrane of the bladder, and therefore the only object was to enable the parts to recover themselves by soothing them, and to strengthen the constitution by nourishment. He became however gradually weaker and weaker, and in the course of three months died.

During this period he had frequent rigors and cold sweats, which are common attendants upon diseases of the bladder; but the symptoms of which he died were wasting of flesh, loathing of food, occasional sickness, without his being aware of his

gradual decay. At last he was so weak as scarcely to bear being moved. He had his faculties perfectly clear, and his recollection complete, till within a few hours of his death.

Upon inspecting the parts after death, it appeared that there had been no stricture, in any part of the urethra. The internal membrane of the bladder was in a state of ulceration, particularly the lower part, where the ureters enter into it, except a line not broader than the  $\frac{1}{8}$  of an inch, extending from each ureter to the middle line, where the two streams would unite. The orifices of the ureters were in a state of ulceration, and inflammation had extended itself along the internal surface of the left ureter to the kidney, the pelvis and infundibula of which were in a state of ulceration.

The use of the caustic had made five different holes through the membrane of the urethra, of the size of the end of a common bougie, at a small distance from each other ;

a large abcess had formed between the perinæum and buttock, into which the urine escaped by these orifices. The immediate cause of his death, I should believe, was the state of the kidney, having seen two other cases in which a diseased state of the pelvis of the kidney produced similar symptoms.

Many other cases of a diseased state of the internal membrane of the bladder, in a less degree than in that which has been stated, have come under my care; these, before the circumstances had all been investigated, were mistaken for stricture, and in consequence of that mistake they were introduced to my notice; but an accurate examination explained the true nature of the complaint.



## CHAPTER III.

STRICTURES WHICH REQUIRE AN UNUSUAL  
NUMBER OF APPLICATIONS OF THE ARMED  
BOUGIE FOR THEIR REMOVAL.

STRICTURES, after having continued for a number of years, lose their original sensibility, as well as their original texture; they become ligamentous, and their power of contracting and relaxing is very much diminished; but as in all such cases, there are consequent strictures, the sensibility which belonged to the first is now transferred to the second. As this new stricture is readily irritated by casual circumstances, as well as by the application of the armed bougie, and as any thing which soothes and tranquillizes it, relieves the original one, and quiets the bladder, the patient very naturally concludes, that this second stricture, is the

only complaint, and forgets intirely that eight or ten years ago there was another nearer the bladder, now no longer in an active state.

In such cases, the symptoms are relieved by the armed bougie being applied to the second stricture, and are again brought on by the bougie passing through it, which at first appears extraordinary, as the canal is supposed, from this circumstance, to be more open than it was before. This however is not in reality the case, and the violence committed upon this stricture brings on a contraction in the original one, causing an aggravation of all the symptoms.

The passing a common bougie through the second stricture, so as to be grasped at the moment it goes through, and letting it remain till the spasm goes off, will sometimes give so much relief, as to lead to the hope that this mode alone, if properly followed up, will effect a cure. But the next time it is passed down, if it goes with ease through this stricture, and comes to

the original one, all the benefit shall be lost; the good to be derived from the use of the bougie, in palliating the symptoms, arising intirely from the second stricture grasping the bougie. When that happens, the other parts are relieved, but when it does not, they derive no advantage.

Where it is not known that there is a stricture further down in the canal, the meeting another stoppage, after having got through that which has given so much trouble, has not unfrequently led to the belief that the prostate gland was in a diseased state, and the only impediment which prevented the bougie from passing into the bladder.

Upon this idea the gland has been examined, by introducing a finger into the rectum, and the result of such examination has confirmed the surgeon in his suspicion; for under such circumstances the parts at the neck of the bladder are so tumid, as to give the feel of an enlarged prostate gland. It will however be found that these con-



clusions are without foundation; the prostate gland is not in a diseased state, further than its enlargement is symptomatic of the stricture which remains.

These observations not only apply to the first or original stricture, but also to the second, for that also in time becomes ligamentous; and the third in succession, which forms at 6 inches from the external orifice, or  $5\frac{1}{2}$ , according to circumstances, then becomes the stricture which is acted upon by occasional circumstances, and appears to be the real disease. When this is the case, the second stricture, after it has been partly destroyed by the caustic, so as to allow the bougie occasionally to pass over it, gives the sensation upon these occasions of passing over the string of a fiddle or some elastic chord; when it is completely destroyed, this is no longer the case.

When the second stricture has become ligamentous, and the first is still harder than ligament, that portion of the urethra which lies between them has lost its natural

structure, and is more or less in a diseased and thickened state, requiring the use of the caustic through its whole extent, to widen the canal, and admit of the bougie arriving at the original stricture.

To accomplish this requires great attention on the part of the surgeon; since the smallest inaccuracy in the application of the caustic occasions it to get beyond the natural boundaries of the urethra, and the smallest excess of violence brings on too much inflammation, and consequently, in such thickened parts, a suppression of urine; while, on the other hand, too much mildness prevents the patient from making any advance towards his recovery.

The progress of the cure, under these circumstances, is necessarily tedious; and the process by which it is to be effected must be occasionally intermitted, so as to allow the parts to recover from its effects, as well as to allow the constitution some respite from a mode of treatment which keeps it in a state of irritation, and from

which it suffers in different degrees, according to its natural irritability.

In such cases, when the original stricture is destroyed, it is often impossible to get a bougie into the bladder. There is so much irregularity, that, although there is a passage, the bougie cannot be made to follow it; and, in some instances, from the thickening of the sides of the urethra, the urine does not flow readily, so much force being required to open this indurated part of the canal. It becomes therefore necessary, from time to time in the progress of the cure, to make use of a curved silver catheter, to ascertain whether the urethra is really pervious or not; and when that instrument can be passed, by continuing its use the bladder is relieved, and the thickening of the urethra subsides.

In the following cases all these circumstances will be illustrated, and some of them minutely detailed, to make them the more perfectly understood.

That the sides of the urethra, in strictures



of long continuance, become thickened, must be within the observation of almost every practitioner; but that the stricture itself, without any great increase of its thickness, or any affection of the membrane of the urethra on either side of it, should become more and more compact, till it arrives at the hardness of cartilage, is a fact which there can be but few opportunities of ascertaining, and is certainly one which could not be expected to take place. I shall therefore mention the instance in which it occurred, as it is of no small importance, in a practical view, to know that strictures, in different patients, vary so much in their texture, and therefore yield to a greater or lesser number of applications of the armed bougie, in proportion to their duration, and the changes they have undergone.

## CASE I.

A nobleman's servant, who was a foreigner, was at Brighthelmstone with his

master, and had a violent attack of strangury, which the surgeon was unable to relieve; he passed his water in drops and at very short intervals. In this state he came to London and put himself under my care. I passed a bougie, which only went down  $4\frac{1}{2}$  inches and gave great pain; I applied the caustic, with a view of relieving the irritation, but it had no such effect; and I considered the parts as in too irritable a state to repeat it; I gave opium to quiet the irritated state of the bladder, but without any benefit. He had a considerable degree of constitutional irritation, and in three or four days died. I afterwards understood from his widow, that he had had no sleep for a week previous to his leaving Brighthelmstone, which had completely exhausted him.

Upon examining the parts after death, there was only one permanent stricture, at seven inches from the external orifice, not thicker than a common piece of catgut, but so hard and compact in its substance, that on passing the end of a probe or the nail of

the finger over it, the resistance was similar to that which would have been given by a piece of cartilage. The bladder was in a state of inflammation, but every other part of the urethra was free from disease; so that the resistance met with at  $4\frac{1}{2}$  inches from the external orifice must have been a spasmodic contraction, produced by the great degree of irritation with which the whole urethra was affected.

## CASE II.

As the following case shows how much some of the symptoms of stricture in warm climates resemble those of gonorrhœa, I have been more particular in the account of it, with a view to prevent attacks of stricture from being mistaken for that disease.

A gentleman, twenty years of age, residing at Calcutta, in Bengal, about the end of September, 1798, caught a gonorrhœa, for which he used several kinds of injection, regularly every three or four hours.



It happened two or three times that the injection occasioned a burning pain along the urethra, but this was alleviated by throwing up some water, which always had the desired effect in a few minutes. Seven or eight days after he had commenced the use of injections, the scalding and chordees abated, and in the first week in November the running stopped, at which time he left off the injection. About a week after there had been no appearance of discharge, he began to drink a little wine, and rode on horseback; he had no sooner entered on this mode of life, than a watery coloured gleet made its appearance: in consequence of which he was going to have recourse to an injection, for the second time, when he received an order to proceed to a district situated 300 miles from Calcutta. He arrived at his destination on the 7th of December, when finding that the gleet still continued, he resumed the injection. A few days after he had done so, more than a tea spoonful of blood discharged itself

immediately after the urine. The injection was then left off, and he never had any further discharge of blood. Perceiving, however, that the running still continued, he commenced sea-bathing, which, in eight or ten days, suppressed the gleet, leaving only an increased discharge of the natural mucus of the urethra.

In the month of January, 1799, he formed a connection, for the first time after he had considered himself cured of the gonorrhœa. It was just at this period he mentioned to a medical gentleman, that he had been for two or three days past annoyed by blisters upon his tongue and on the inside of his lips. On shewing these blisters to this gentleman and to others, he became very much alarmed, by their saying that they thought them to be venereal ulcers. However, from this apprehension he was soon relieved by another practitioner, who declared them to be nothing more than blisters arising from the heat of his stomach; and added, that by making use of a gargle he would soon

get rid of them. The gargle was accordingly tried, and had the desired effect in a few days. These blisters on their first appearance gave no pain.

On the 19th or 20th of January he went out with a hunting party, with which he passed four or five days. During this time the thermometer was down as far as the freezing point; he was very much exposed to the cold every night, lived rather freely, hunted upon an elephant, but did not once mount a horse. On leaving the party, he observed an augmentation of moisture from the urethra; an inflammation had commenced, and every symptom of a gonorrhoea was coming on. In this state he travelled nearly 150 miles to Calcutta. The discharge very soon assumed a light yellow colour, and increased rapidly in the night. During the journey the running became excessive, and he experienced violent pain from frequent chordees. On his arrival in Calcutta the parts were so much irritated, that he could scarcely bear the application



of an injection he employed, and was unable to go out of the house; and therefore had an opportunity to make use of the injection at all hours. The second or third day after he began to confine himself, he was so unfortunate as to be attacked by the gout in his left foot for the first time in his life. From these two complaints being upon him at the same time, he underwent a great deal of pain; both of them were removed in three weeks. The moisture mentioned before returned, and during a period of two months neither increased nor diminished, although he had been living as usual, and rode on horseback almost every morning.

At the end of the month of April, 1799, he formed a connection, for the first time since his recovery, and two days after it symptoms resembling those of gonorrhœa broke out, accompanied with scalding and chordee. He had immediately recourse to an injection, and these symptoms went off in eight or ten days; but there remained

a watery coloured discharge, which lasted for six weeks. The intense heat of the weather was said to be the cause of the gleet's continuing so long. The thermometer at this season was seldom under 78, and often above 100. All this time he was obliged to use a good deal of exercise. In consequence of the fatigue he became so very nervous, that it was with difficulty he could write. In mentioning affections of the nerves it is proper to notice that, from his childhood, many occurrences which had made little or no impression upon others, affected him to the greatest degree. On these occasions his mind had been always so much agitated as to produce a feverish heat over the body, as well as head-aches. When in Europe he was frequently, during the summer season, attacked by a sudden dimness over his eyes, accompanied with sickness, and vomiting of bile ; these symptoms were followed by most painful head-aches, that lasted upwards of twenty-four hours. From his ninth or tenth year to the

age of fourteen, he was constantly troubled by a natural phimosis, and the prepuce has since been at different periods contracted.

In January, 1795, he was confined to the house for two or three weeks with a fever, and from that time until his arrival in Calcutta he was under the necessity of taking medicine every five or six days, on account of bilious head-aches. It was at the end of September of the same year that he reached Calcutta, where the cold season very soon commenced; and so long as it lasted he enjoyed very good health. The climate became hot in February, when he was seized with a remitting fever, that regularly attacked him four or five days in every month, until November, 1797; after which it left him entirely. He had taken various medicines for this fever, but ascribed the entire removal of it to bathing, which he accidentally happened to make use of at that time.

While this fever was upon him he was very liable to a fluctuation of spirits; at times as it were elevated above what was



natural, and at others depressed to a point which was far below it; indeed so much so as to render him unfit to perform the common duties of life. Ever after the first fit of the remitting fever, he suffered much from debility and occasional depression of spirits. After the removal of the fever, until September, 1798, he experienced tolerable health.

In the month of September, 1799, there was a return of symptoms resembling those of gonorrhœa, accompanied with chordee and scalding, which were followed by a gleet. This continued until the cold set in, in the month of November.

In February, 1800, he had similar symptoms, and in April they were again removed, and were succeeded by warts of a reddish colour, six or seven in number, and growing out of the external orifice. Caustic was applied to them; by which means they were destroyed in a few days. Some white warts, which were situated upon the outside, were also removed by the same means.

Having suffered much, both in body and mind, from these symptoms, which he understood were those of gonorrhœa, he came to the determination of making himself less liable again to complaints of this nature, and took a woman into keeping. He had connection with this woman from June, 1800, until the beginning of September following, when symptoms of the same kind again came on. For ten or twelve days previous to this discovery he had a flux. He mentioned to the woman his situation, and on questioning her concerning her health, she affirmed that she had never been in the least disordered. At this declaration he was greatly alarmed, and became very apprehensive of a stricture. He stated what had occurred to his surgeon, who said, that there might probably be strictures; and desired to know whether there was any diminution of the stream of urine. On observing the stream, it was evidently smaller than formerly, and had a twist which scattered the water as it flowed from the urethra. After

reflecting on these symptoms for some time, being sensible that there was no difficulty in voiding the water, he suspected that the caustic which had removed the warts might, at the same time, have destroyed a very small quantity of the urethra, and consequently be the cause of the water not flowing in as full a stream as it used to do.

He went through the usual course of injections, which, in about a fortnight, removed the chordee and scalding, but did not suppress the gleet that followed, before December. Not knowing how to account for this last disorder, he was extremely low in spirits; and so much did the subject prey on his mind, that it kept him awake frequently the whole of the night.

In January, 1801, he went up the country twenty miles from Calcutta. By this time he had made such inquiry concerning the health of the woman, as to be thoroughly convinced that she had never been unwell, and again ventured upon having connection with her. The causes and symptoms



of strictures having also been explained to him, he was enabled to scrutinize every indication which might tend to give a thorough knowledge of the nature of the complaint.

The first symptom that attracted his notice was, that in the act of copulation he was sensible that the semen was not propelled forward with the same force as it used to be, but that it discharged itself in a dribbling manner, and this not until half a minute after it had been emitted from the bulb of the urethra. He continued to have connection with this woman for a month, at the end of which time, perceiving a return of his symptoms, he parted with her, though she still confidently affirmed, as in the first instance, that she never had been in the least disordered. By using injections for a week he got rid of the chordee and scalding, but a gleet ensuing, he continued to inject for a fortnight; at the end of which time the discharge not having in any degree subsided, the injection was

laid aside, as being of little or no use. Although he formed a connection two or three times, while in this state, it did not increase the gleet, or in the least alter its colour.

In the end of April he returned to Calcutta, and by the middle of May the gleet had nearly got well of its own accord; in short, it appeared to be little more than a moisture in the urethra, and similar to that which he had already experienced.

He now considered himself perfectly recovered, and had connection four or five times with a woman, whom he was certain was not disordered. Two days after the last connection the parts became so much inflamed as to be unable to bear any application except milk and water. In this instance, the chordee and scalding were much more painful than he had ever experienced from any of the former complaints, and a cutting sensation was felt along the whole of the urethra, but particularly about seven or eight inches from its external orifice. These violent symptoms

lasted for a week, after which they abated, and in a fortnight subsided entirely ; yet the discharge continued. The former gleets were all without colour, but the matter that discharged itself in the present instance resembled the matter of a gonorrhœa. For this gleet various sorts of injections were used, and one in particular, which had never been applied before in any of the former gleets. It was of a gummy substance, and when injected, was allowed to remain in the urethra two hours, both in the morning and evening.

This plan was pursued for several weeks, at the end of which time it was given up as proving ineffectual ; for the gleet retained the colour which it had originally assumed, and the discharge was as copious as in the beginning of the disorder.

All along he had endured much uneasiness from mental reflection ; but his present situation, and other incidents in life, made such an impression upon him, as to deprive him of sleep for two or three nights in the



course of every week. It was just at this period that he perceived the stream of urine getting more contracted. It was likewise obvious that the gleet was not getting any better; he therefore began seriously to suspect that a stricture must be the cause of these symptoms. On communicating these suspicions to a medical gentleman, he advised him to have a bougie introduced into the urethra, as being the best means of stopping the discharge, as well as the only way of ascertaining whether there were any strictures.

The idea of an instrument passing over a membrane so very tender and irritable, as he conceived the urethra to be, made him at first object to it; however, the hope of being in a short time perfectly cured, very soon induced him to come to the resolution of undergoing any pain and every risk, which might attend the application of the bougie. Accordingly, a surgeon in Calcutta inserted a small sized bougie, which met with some opposition about two

inches from the external orifice; but after pressing on this obstruction for a minute, the bougie passed on one inch further, where it was again stopped for nearly the same period as at the first obstruction. The bougie, after getting over this second impediment, passed on with the greatest facility as far as seven inches from the external orifice; it there met with a third obstruction. By this time the urethra having become rather irritable, a burning sensation was felt along the canal. The patient was so strongly impressed with the idea of some approaching pain, that his whole body assumed a stiff contracted state; nevertheless, the surgeon kept pressing gently on the obstruction for five or six minutes; but failing in his endeavours to pass the bougie, he allowed the patient to take hold of it. By this time the burning pain had almost subsided, and as the patient had acquired some confidence, he pressed the bougie against the obstruction, but could not effect his purpose under half an

hour. He then felt a sharp cutting pain, occasioned by the instrument passing through the obstruction; this painful sensation was, however, but transitory, and the bougie was immediately pushed on with ease into the bladder, where it was allowed to remain for ten minutes. The bougie was then withdrawn, and on examination was found to have upon it three whitish marks, which had evidently been made by the obstructions.

It was now ascertained that there were three strictures, one of which appeared to be greatly under the influence of spasm. The patient was desired by his surgeon to introduce the bougie again in a day or two, and let it remain for an hour, unless it should produce much irritation in the urethra; in which case it was to be instantly removed. About an hour after withdrawing it, the discharge became very copious. In using the same bougie a second time, more difficulty was experienced in passing it over the two first obstructions; and



after several attempts it was found impracticable to get it through the third. At different periods small sized bougies were tried, yet the third obstruction proved impervious to all of them.

A large sized bougie was then had recourse to, and after wearing it for more than half an hour, it passed into the bladder, without causing much pain, as it passed over the obstruction. This bougie, as well as others of all sizes, was afterwards passed, but none of them could be pushed through the third obstruction; in consequence of which he was instructed not to press the bougie any more against this stricture, but to apply it regularly to the others. Large bougies were accordingly every day applied to the two first obstructions for nearly one month; notwithstanding this he received no benefit; they were therefore laid aside. It is here necessary to remark that, during these applications of the bougie, the surgeon discovered a swelling of one of the testicles, which on examination was found to be a

hydrocele; this he said was produced by a sympathetic connection between the fire-thra and the testicles, and would most likely gradually diminish after the strictures were removed.

It now appeared obvious that a permanent cure could not be effected, without having recourse to the caustic; but as it was supposed the application of that remedy might be attended with the most dangerous consequences in the climate of India, especially to a person of a very irritable habit, and whose nerves were much shaken, it was proposed that he should proceed without delay to Europe.

He embarked on the 25th of January 1802; at that time the gleet continued, and his nerves were so very weak as to render him incapable at times of writing his name. These symptoms remained unchanged until he got round the Cape of Good Hope; at which time he became less nervous, and the gleet gradually disappeared; but a frequency and difficulty in voiding the urine came on,

and at times it discharged itself involuntarily after attempting to empty his bladder. In the morning he had always a slight headache and an uneasy fullness in his bladder; this last symptom however, as soon as he got out of bed, and made water, was relieved. These symptoms remained for a fortnight, and then got gradually better. On his arrival in London his nerves were still easily affected. Blisters on his tongue were occasionally so bad as to require the use of a gargle: the hydrocele was in the same state as when it was first discovered in India.

In this state he put himself under my care, on the 20th of July 1802. The urethra was in a very irritable state, and the application of the caustic gave so much pain as to prevent its being used oftener than once a week. It was regularly applied till the 16th of August, and discontinued from that time to the 6th of September, during which period nothing was done to the stricture. The caustic was then used every fifth or sixth day. On the 25th of



September a suppression of urine took place, which was relieved by means of an opiate clyster. On the following day the suppression returned about twelve o'clock at noon, and at five o'clock in the afternoon he was directed to take thirty drops of tincture of opium; but this not enabling him to pass any water, at seven o'clock a clyster was thrown up with forty-five drops of tincture of opium. By this time the bladder became extremely painful. Between eight and nine o'clock a draught with 40 drops of tincture of opium was administered, and flannels wrung out of warm water were applied to the region of the bladder. These means affording no relief, about half after ten o'clock I introduced a catgut bougie, which passed through the stricture, and was allowed to remain in it for a quarter of an hour; and upon withdrawing it, the urine followed in a small stream. This afforded instant relief from the excessive pain he had been suffering. The catgut bougie was inserted again; and in this

manner the bladder was completely emptied. On the following day, the patient was obliged to introduce a small sized bougie to enable him to make water, but afterwards passed his urine as usual, nor had he any return of suppression. It is necessary to observe that, during the time he was under the use of the caustic, he was occasionally subject to fever, but more particularly so immediately after the suppression of urine. With a view to render the constitution less irritable, recourse was had to the decoction of marsh mallows and milk, and wine and malt liquors were left off; this abstemious regimen did not render the effects of the caustic less violent. On the 16th of January there was a considerable discharge of blood, which made it necessary to omit the use of the caustic for ten days, and when it was resumed, that stricture was found to be removed. The applications to the next stricture were less severe, but for five or six times there was great pain on passing over the part where the first had been

situated. He again began to drink wine and malt liquors in small quantities, and did not find that this change in his diet made him more irritable, or suffer more pain from the use of the caustic, which was applied to this stricture till the end of April, at which time the bougie had not advanced at all ; but the impression on the end of it was on the under surface, making it appear that the caustic was acting in that direction. A silver catheter was therefore introduced to ascertain, whether the upper portion of the stricture had been removed, which was found to be the case, as the instrument was readily conducted over the hollow the caustic had made, and passed into the bladder. This operation gave considerable pain, and made the parts bleed. It was repeated every second day ; but after the fourth time, the urethra was so much disturbed by the metal instrument, that on the fifth it could not be made to go beyond the situation of the stricture ; but a common bougie passed into the



bladder with ease. For two weeks the bougie was passed every second or third day, then every day, with ease and unaccompanied by pain ; the patient was able to introduce it himself, and was desired to continue to do so till the parts had perfectly recovered themselves. He left London in June, so that he had been eleven months under my care.

The ulcers on the tongue had been very troublesome during the progress of the cure, and were occasionally relieved by different gargles, but more effectually by small doses of calomel ; at the time of his leaving me they were hardly at all troublesome. I am therefore induced to believe they arose from the state of the stomach, which had been disturbed in consequence of its sympathetic affection with the stricture. This opinion is rendered more probable by other more serious complaints on the tongue having in another case disappeared, as soon as a stricture in the urethra was removed, which will hereafter be more particularly notice d.

## CASE III.

An officer in the service of the East India Company who had contracted a gonorrhœa in 1788, and from that time had had a difficulty in making water, met with an accident in 1792, from a piece of timber striking him on the perinæum. This brought on an abcess, which was opened externally, and the urine passed out at the orifice; there were two other openings in consequence of the skin giving way, through both of which the urine found a passage. It was nine months before the last of these healed.

At the time the fistulæ healed, the stream of urine was contracted in a very unusual degree, and there was a thin watery discharge from the urethra. It was conceived by his medical attendants, that the discharge from the urethra arose from the external orifices having healed before the internal one that communicated with the urethra, and that therefore it would be proper to wear a bougie to make this orifice heal up. This practice was adopted, but in an injudicious

manner, for the bougie was never passed into the bladder. In this way however it was continued, being occasionally left off and recurred to again, for five years, without affording the smallest relief. During this period he had only one complete suppression, which after continuing two hours went off.

The stream of urine was now very much diminished, and great effort was always required to enable the bladder to discharge its contents. The patient's general health was upon the decline, and he laboured under affections supposed to be bilious; he was therefore advised to quit India, and return to Europe, with a view to put himself under my care.

On March the 15th 1798, he became my patient; at that time he was thirty years of age, and the bougie of a very small size only could be passed for  $3\frac{1}{2}$  inches. The armed bougie was applied to this stricture, and a paroxysm of fever was the consequence. Three applications enabled the bougie to



pass on to  $5\frac{1}{2}$  inches; and four more applications permitted it to go down to  $7\frac{1}{2}$  inches. Having got thus far, it appeared necessary to enlarge the canal before any attempt was made upon the last stricture; the bougie in present use being too small to allow the caustic to be properly applied to a stricture in the curve of the canal. The larger sized bougie brought on another ague, which made it necessary to desist from further applications for a week. Its use was resumed on the 5th of April, and regularly continued every other day without the smallest inconvenience till the middle of June, when the urethra was affected by spasm, and it was found necessary to leave off the use of the caustic till the 29th. It was then resumed, and persevered in, the size of the bougie being increased, till the 6th of November, when its use was suspended for fourteen days, and then again continued without intermission till the 15th of April. The patient's general health continued to improve, and the straining to

make water was entirely removed. It was judged adviseable to give the parts a little time to recover themselves from the effect of the caustic, and its use was again suspended till the beginning of July. On the first attempt to pass the bougie, I remarked that the whole canal was in a state of quietude which I had never before experienced, and it admitted a tolerably large armed bougie to pass down to the last stricture with perfect ease. It was applied regularly every other day till the 10th of September.

At this time the stream from the urethra was improved, and the bladder had recovered its power of retaining the usual quantity of water. It was therefore thought right to pass a catheter, and ascertain whether the stricture was destroyed, which could not be so well done by a bougie, as the irregularities of the urethra at that part might prevent it from getting into the bladder. A catheter of a small size went beyond the parts where the bougie stopped, and from

the measurement appeared to go to the orifice of the bladder, but did not pass into its cavity. This led to the catheter being passed every other day through this part of the canal, so as to bring it more into a natural state, till the 4th of October; on which day it went on into the bladder. On the 7th, one of a common size was admitted to pass; and by repeating the use of the catheter, in the course of a few weeks, the patient was enabled to pass it himself. This he was directed to do till the parts had returned to a natural state, which after so long a continuance of disease must require a considerable time. He returned to his professional duties in the East Indies, was engaged in very active service during the late war, in Egypt and the Red sea, and writes me that he has continued in perfect health, not having had the slightest return of his complaint.

In this case the caustic was applied one hundred and eighty-seven times in the course of eighteen months and a half; and



although the process of the cure was so extremely tedious, when once it was completed, the parts seemed to be in no degree injured by the frequency of the applications, nor were they longer in recovering themselves than where the cure has been effected in a much shorter time. I have learned also from accounts transmitted from India three years after, that there has neither been any unpleasant consequence from what the parts had undergone, nor any disposition in the urethra to a recurrence of the disease.

## CASE IV.

A gentleman came from Flanders, in the year 1789, to consult some of the most eminent surgeons in London respecting a stricture in the urethra, and by their direction employed the common bougie, and returned home. From the irritability of the parts, however, he was never able to continue the use of the bougie, and his complaint increased so much upon him, as to

make his life wretched. In this state I saw him, in Flanders; in September, 1793, at which time the smallest bougie could not be passed. I applied the caustic, and in consequence of it he was able to pass a small bougie, in doing which I begged him to persevere. The troubles in that country brought him over to England, in September, 1794, and he put himself under my care. The distress of his private affairs agitated his mind, and increased the irritability of the parts affected; he had several severe attacks of an intermittent fever, a very common constitutional symptom of stricture, which reduced his strength in a very great degree. I attempted the use of the bougie, and passed a small one into the bladder; from this, however, nothing was gained, for the bougie in passing through the stricture brought on spasm and violent irritation. I adopted the caustic, and destroyed the stricture, which relieved the symptoms so much that it was supposed there were no others; but a few inches further on in the

canal there was a second stricture. After touching this once or twice, I wished to proceed with the bougie; but irritation came on, and the ague returned with so much violence as to endanger his life. The caustic was again resorted to; it was applied six or seven times without bringing on irritation upon the parts, and materially relieved both the constitutional and local symptoms. Having so far succeeded, I was desirous of completing the cure by means of the caustic; for, in the present state of the parts, ground was lost instead of gained, by the use of the common bougie. I found, however, that little was to be expected from persevering with the caustic, for the urethra contracted before the armed bougie could reach the stricture, and even when applied to it, there was a slight degree of irritation brought on. As this was the case, and he was much indisposed, he went to Bristol at Christmas, with a view to restore his general health, as some of the symptoms in the bladder and urethra seemed to depend on its



present state. I wished him, upon leaving town, to do nothing but attend to the recovery of his strength; for as he made water tolerably well, and with little or no irritation, nothing was immediately necessary. The frequency in making water, and, at intervals, a discharge of mucus from the bladder, continued with little abatement, even after he had considerably improved his health. I therefore proposed his returning to the use of the bougie; this he seemed not to think necessary, as there was no obstruction to the passage of the urine; but upon the principle I have already explained, I told him, that till the urethra was rendered much larger at the contracted parts, these symptoms would continue.

He now employed the bougie again, and was able to pass one of a size a good deal larger than the smallest; but after using it for many months, the progress, by means of the bougie, was very small. His complaints at Bristol gradually increased upon him, and he tried various medicines

without any advantage; the discharge of mucus from the bladder, and the frequency of making water, as well as the constitutional irritation, in the form of ague, at last became so violent, that in September, 1798, he returned to town.

At this time he was deprived of every comfort of society; he never passed twenty-four hours without a rigor, and when that went off was still in a state of irritation. The use of the caustic was resumed, and continued at the intervals of one, two, three, or four days, according to circumstances, till April 1799, at which period the symptoms were so much relieved, that he could retain his water six or eight hours, had no returns of feverish paroxysms, the mucus was not present in his water, and his appetite was good, although the bougie or catheter could not be passed into the bladder.

Under these circumstances I advised his going into the country, and that he should return in seven or eight months. Such, however, was the benefit he had received,

and such the unwillingness to submit again to a severe operation, that he neglected this advice, and did not return till April, 1801, and this more from being called by other business, than the symptoms of his complaint.

At this time he suffered very little ; but still as no instrument could be passed into the bladder, he was naturally kept in a state of alarm.

After making one or two trials, I was now enabled to pass a catheter into the bladder, and in three weeks time to enable him to pass one of a common size. I have seen him since, and he declared himself free from all complaint in those parts.

#### CASE V.

A gentleman, in the year 1779, when scarcely sixteen years of age, contracted a gonorrhœa ; the inflammation in the urethra was unusually severe, and lasted for nine or ten months. Even at this period the pain was not entirely gone, and the discharge



was very profuse. These latter symptoms were termed a gleet, and continued for three years before they disappeared; the mode by which they were removed was the use of astringent injections, and to this treatment they yielded in the month of January, 1783.

About a month after the discharge was stopped, it was perceived that the urine was voided more frequently than usual, and required an effort to throw it out, and that the stream was contracted in size. To ascertain the cause of these symptoms, the urethra was examined by a small bougie, which was readily passed into the bladder; they were therefore considered as arising from spasm, the canal being pronounced free from any stricture. The treatment proposed was diluting with mucilaginous drinks combined with nitre.

In the course of six months these symptoms were so much increased, that it became necessary to pass a small gum elastic bougie previously to making water, and if

this was neglected, suppression came on, and often lasted from six to twelve hours, during which period the patient's sufferings were very severe.

At various times, between the year 1784 and 1788, by the advice of the most eminent surgeons in Dublin, he submitted to what was called a course of bougies, for months together, persisting in the practice of wearing them constantly, night and day; but the relief he received was always temporary. In the beginning they produced uneasiness and irritation, but after some time a profuse discharge was brought on, and the pain subsided. To dilate the stricture beyond what would admit a moderate sized bougie he found to be impracticable, and whenever he left off the bougies for a fortnight or three weeks, the symptoms returned with more violence than before they were used. This made him despair of a cure, and led him to seek only for relief from the violence of the symptoms. With this view he adopted the use of a small

elastic gum bougie, which was chiefly worn at night, secured by a cotton thread, and removed in the morning. By this practice there was kept up a considerable discharge, without pain, and he was enabled to pass his urine with tolerable ease through the day, living freely, and using a good deal of exercise, both on horseback and on foot. He went on in this way for six years, occasionally leaving off the use of the bougie for a few days; nor did he find in that time that the disease had made any considerable progress. In 1795 he was under the necessity of going through a course of mercury for another disease, which so much increased the irritability of the urethra, that the small elastic gum bougie gave considerable pain while retained. By degrees it passed with more difficulty, and at last was stopped at 7 inches from the external orifice. At this time he made water frequently during the night, in a small forked stream; and after any irregularity in his mode of living, there was a considerable pain and difficulty in



voiding it. The membranous part of the urethra, when felt externally, was hard and tumid.

In February, 1796, he accidentally met with my publication on this disease, which induced him to put himself under my care.

On the 6th of July, 1796, the urethra was examined by a bougie. The external orifice was very small, giving the idea that the urethra was naturally so formed. A bougie of a size to fill this orifice passed only 3 inches; the caustic was therefore applied to this obstruction. The effects were by no means severe; the third application allowed the bougie to pass through. This was attended with severe pain, and great irritation; on attempting to pass the bougie two days after through this part, the pain was insufferable, and brought on chordee; the parts were therefore left to recover themselves. At the end of three weeks the use of the caustic was resumed to a second stricture at  $5\frac{1}{2}$  inches, which, after three applications of the armed bougie,

allowed it to pass on to 7 inches. The caustic was applied six times to this next stricture, and then the bougie went on to the bladder. While the caustic was employed, the patient was very well on the days of the application, but had irritation on the alternate days, and a want of power to void the urine. This continued on the following morning, till the application was made; but five or six minutes after, the bladder was enabled to empty itself.

The day after the bougie passed into the bladder he made water freely, but worse every succeeding day, and on the sixth there was a total suppression; this was relieved by passing a small gum-elastic catheter, and drawing off the water.

It now appeared that the caustic had removed the spasmodic affection of the stricture only, and therefore the relief was momentary, the stricture itself not having been destroyed.

On the 2d of April the caustic was again applied to this stricture, and repeated every

other day till the 21st; at this time the symptoms were much abated, but the stricture had in no respect given way. The applications were therefore continued till the 11th of May, when the patient had occasion to go into the country, and the symptoms were now so much relieved as not to prevent him.

In July he returned to town, with his bladder in a less tranquil state. A bougie a size larger than before was able to pass to the stricture at 7 inches, and after two or three times using it the irritation was diminished. The caustic was now applied four days in succession, then omitted one day, and in this way the application was continued for a fortnight, a freshly armed bougie being each time used to give it more effect. The bougie however did not pass further, nor was there any material change in the symptoms; but, from the impression of the stricture upon the end of the soft bougie, the aperture was evidently enlarged.\*

\* The caustic had in all, at this time, been applied about 51 times.



On the 1st of September he went into the country, and in six weeks returned; the use of the caustic was resumed on the 17th of October, and pursued every other day, with very few intervals, till the 3d of March, 1797, without any material advantage, or my being able to pass either a bougie or catheter of any size into the bladder.\*

About this time he was attacked with a violent cold or influenza, which was very prevalent, and his general health was so much affected by it as to require change of air; on this account he went into the country. After leaving town the difficulty in making water became very troublesome, which induced him to apply the armed bougie himself every second or third day to the stricture at six inches, which took off the spasm. As he recovered his strength this became less necessary, and for the remainder of the year 1797 and the whole of

\* From 17th of October, 1796, to 3d of March, 1797, the caustic was applied about 110 times.

the year 1798 he only had occasion to make these applications once in ten or twelve days, which always allayed the irritation, and disposition to spasmodic affection in the urethra. While in the country he lived temperately, but without any particular restraint, taking exercise freely, both on horseback and on foot. He lived with one woman, and found that emission was sometimes imperfect, attended with pain.

During the year 1797 he seldom had occasion to make water during the night; but in the year 1798 the inclination to void the urine became more frequent, and by the end of that year all his former symptoms had returned with so much violence, and caused so much distress, that it became absolutely necessary again to have recourse to the caustic.\*

He returned to London in January, 1799, and upon examining the external orifice, it was now found capable of receiving a much

\* While he was in the country, the caustic was applied by the patient 38 times.

larger sized bougie than formerly, and one of this size passed readily down for  $3\frac{1}{2}$  inches, where it met with an obstruction. This circumstance induced me to believe that the whole canal, in consequence of the long continuance of irritation, had been diminished in its size; that the strictures which had been considered as destroyed, were only partially acted on, their aperture being brought to the width of this contracted state of the urethra, but the diseased part not by any means deprived of its power of contraction; and that one effect of increasing the aperture of the strictures was disposing the more natural portions of the urethra to recover their proper degree of relaxation.

This view of the subject led to the opinion that it was necessary, for the removal of the spasmodic affections, that the strictures should be more completely destroyed, and that, however tedious this process might be, it was the only one by which the patient could be relieved.



On the 5th of January the caustic was applied to the stricture at  $3\frac{1}{2}$  inches from the external orifice ; this was repeated five times on the alternate days, before the bougie passed through, but neither gave much pain or other uneasiness. The bougie now passed on to  $4\frac{1}{4}$ , where there was another obstruction, which yielded to three applications. There was a third at  $5\frac{1}{2}$  inches, which required about the same number ; at 6 inches there was a fourth obstruction, which yielded to five applications ; at  $6\frac{7}{8}$  inches there was a fifth stricture, to remove which there was great difficulty. The caustic was applied regularly to this stricture every other day from the 20th of February to the 24th of March, and then, instead of having gained upon it, an irritation took place upon the part at 6 inches, so as to prevent the bougie from passing beyond it. This made it necessary to apply the caustic to that part, and it was not till the end of May that the armed bougie could pass on to  $6\frac{7}{8}$  inches. The armed bougie was now

applied to the stricture at  $6\frac{7}{8}$  inches, from the 2d of June every other day, till the 26th of August, without any apparent alteration.

For several months the patient had not been obliged to make water during the night, although the calls to do so were frequent during the day, attended with considerable irritation. The tepid salt water bath, heated to  $90^{\circ}$ , had been some time employed, on the days the caustic was not used, the patient remaining in it for fifteen minutes. It seemed to soothe the parts, and render the constitution less liable to be affected by irritation.

After so long a continuance of the use of the caustic, it was thought right to desist for some time, both with a view to see the effects of what had been done, and for a time to relieve the patient from the confinement necessary for that process.\*

With a view to keep the parts as tranquil as possible in this interval, he abstained

\* From January 5th to August 26th, the caustic was applied 102 times.

entirely from the use of wine, lived principally on a milk diet, and took twice a day twenty drops of the caustic alkali in milk and water; but these means were attended with no benefit, for by the 1st of October the symptoms had become too distressing to allow him to go on without returning to the use of the caustic.

On the 9th of October a bougie was passed, which only went down 6 inches; a bougie of a larger size was now employed, which was found to pass, without unusual pain or irritation, to the same distance. It was therefore resolved to make use of the largest sized armed bougie that could be passed, as the only means of completely subduing this obstruction at 6 inches, which, although it was considerably more open than at first, was not deprived of the power of contraction whenever it was left undisturbed.

This sized bougie was employed, armed with caustic, every other day till the 23d of October, when it was found that one of a



larger size could be used, which was done, and on the 4th of November we were enabled again to increase the size of the bougie. The great benefit which was derived from using these larger bougies was, that the pain and uneasiness in the urethra went entirely away, and never after returned, in the future progress of the cure ; there was only local pain from the immediate application of the caustic, which was not excessive.

On the 14th of November the size of the armed bougie was again increased, and still more so on the 20th of December, and the caustic was regularly applied every other day till the end of February, 1800. From the 9th of October to this time, the applications were generally made to the stricture at 6 inches, but the bougie went on occasionally to that at  $6\frac{7}{8}$  inches ; when it did so, it gave the feel of passing over a piece of elastic cartilage, or a tense string ; and it brought on so much irritation upon the

stricture in passing through it, that next time it always stopped there.

On the 26th of February, the anterior parts of the urethra allowed the size of the bougie to be again enlarged, but it did not go farther than  $5\frac{1}{2}$  inches. After resting there for a few seconds, it went on to the stricture at  $6\frac{7}{8}$  inches, but this brought on the spasm formerly mentioned, which prevented the armed bougie again from passing through; this circumstance took place three different times only, the other applications being all entirely to the stricture at  $5\frac{1}{2}$  inches. On the 20th of April this stricture appeared entirely subdued, and the bougie met with no obstruction at 6 inches, but went on to the last at  $6\frac{7}{8}$ , and the caustic was regularly applied to this till the 30th of July.

The caustic having been used so long, and the parts having been much relieved from

\* From October 9th to July 30th, the caustic was applied 148 times.

irritation, it became a question whether the stricture might not have been completely destroyed, and the instrument only prevented from going on into the bladder by the irregularity produced in the canal from the caustic destroying the diseased parts to a greater extent below than above. To decide this point, a catheter, whose curve was adapted to the natural turn of the urethra, was used, but could not be passed beyond the part where the bougie stopped. As it gave no pain and produced no great degree of uneasiness, it was repeated every day till the 15th of August, when it was left off for a fortnight, the patient passing every day a common bougie down to the stoppage at  $6\frac{7}{8}$ , to prevent any spasm or irritation from coming upon that part of the urethra.

On the first of September, when the parts were considered to be in a sufficiently quiet state to admit of their being accurately examined, a catheter was passed, and the finger introduced into the anus to guide the point of the instrument over any irregularities;



but without effect. This examination was repeated three or four times, at intervals of several days, and as the instrument never went further in any of these trials, it was considered as a justification in renewing the use of the caustic, as the only means of removing the obstruction. The use of the caustic was resumed in November, and continued occasionally till the end of December.

From this time the use of the caustic was continued, the catheter being occasionally passed, till the end of June, when, for the first time, the catheter went on about an inch further; which led to the belief that the point rested on the external orifice of the bladder, at the entrance of which there is not uncommonly a little projection, and almost always so in patients whose urethras have been long diseased in consequence of strictures.\*

The catheter was now passed every third day, only down to this part; sometimes it

\* From November to the end of June the caustic was used about 40 times.

brought on considerable irritation, at others it did not irritate, and then there was commonly a slight hæmorrhage, which relieved the parts. This plan was followed to the 15th of August, and the absence of all uneasiness in the region of the bladder from the 4th of June confirmed the opinion, that there was now nothing but an irregularity at the neck of the bladder to be overcome.

The parts were left to themselves for a fortnight, and this short interval brought back irritation in the neck of the bladder, frequency in making water, straining to void it, and general uneasiness; so that there was reason to apprehend some of the former strictures had again been affected by spasm; but upon passing a large sized catheter it went readily down to the same distance as before. This attempt was made on the 2d of September. The catheter was again passed on the 4th, the finger being at the same time introduced into the anus. The instrument seemed to pass more readily than it had done before, which led to the belief that

a smaller one would go on into the bladder. It was therefore proposed to make the trial; and it was found that a small gum catheter with an iron stilet, on the fourth trial, guided by the finger from behind, passed into the bladder. This was effected on the 13th of September, and was attended with very little irritation; the same catheter passed next day without any assistance from behind. On the 16th a large iron sound, whose surface being quite smooth gave it an advantage over the catheter, the eyes of which are apt to catch upon any irregularity, passed with ease into the bladder. After this a common sized catheter could be passed very readily, and when it had been used seven different times on the alternate days, the patient was enabled to do it himself. He was advised to continue its use in the same manner, till the parts should lose the present induration, and irregularity of surface; experience in other cases having ascertained, that these parts do recover themselves under such treatment.



In this case the caustic had been applied, in the course of six years, to the different strictures 486 times, before they were sufficiently removed to allow an instrument of a tolerable size to pass into the bladder.

In 1803 this patient continued free from any relapse, but was under the necessity of passing a bougie daily, and leaving it in the urethra for half an hour, to keep the canal in a state of tranquillity ; for he found that when he omitted to do so, occasional symptoms of irritation came on.

In contemplating the sufferings of the patient during so long a period as six years, it may be observed, that few men would have had the same degree of perseverance, and that a cure was hardly worth so dear a price. This, however, is not by any means a just view of the case, since the whole time he was under this treatment he suffered less, both in body and mind, from the effects of the caustic, than he had done from the symptoms of the disease previous

to its being adopted, and the degree of relief he received from the immediate effect of the applications upon the parts irritated, was more than sufficient to counterbalance the local pain it produced.

## CHAPTER IV.

THE EFFECTS OF LONG CONTINUANCE OF  
STRICTURE IN THE URETHRA UPON THE  
BLADDER.

THE symptoms belonging to the bladder, in consequence of stricture in the urethra, have been already treated of; at present it is only intended to take notice of those efforts of that viscus which produce a new and permanent disease. These are by no means the necessary attendants upon a stricture, but only the consequence of that disease having been so long continued, that the bladder becomes unable to carry on its functions without suffering some material injury.

The bladder is liable to irritation in almost all cases of stricture, but while there is no alteration of structure in any of its parts, as soon as the obstruction is removed,



it is capable of recovering itself. The length of time necessary for that purpose is found to differ according to the nature of the constitution, and violence of the symptoms; but the injuries to which the bladder is liable from long continued strictures are attended with an alteration of structure, and therefore must, in all cases, require much time for their recovery; in some instances the mischief is too great to admit of a cure. The injuries I mean to notice in the different Sections of this Chapter are, a diseased state of the internal membrane, and an ulceration of its coats producing different effects, according to the situation of the ulcer.

It may be thought an omission not to include, among these effects of stricture, the contracted state of the bladder, which is often met with. My reason for not doing so is, that such contraction is only an effect of any continued irritation upon the internal membrane, and not a diseased state of the muscular coats of the bladder; it is,

therefore, strictly speaking, a symptom of an irritable bladder, and is relieved by whatever removes that disease. This is so true, that in a case related in the XIIth Chapter of the present Volume, that viscus, after having been several years unable to hold more than three ounces of water, in the course of three weeks so far recovered itself as to hold half a pint. I have also known a case, where the bladder had become contracted, by a stone in its cavity keeping up a constant and violent irritation; after the operation for removing the stone, the whole of the cavity was examined, which was not large enough to contain more than three ounces of water. This state of the bladder gave a very unfavourable prospect of the patient's recovery, or of the advantages to be derived from the operation; but all that was necessary to enable the bladder to recover itself was the removing of the irritating cause; and in the course of two years, the improvement has been uniform and gradual, and the patient,

when remaining quiet, is enabled to retain the urine for four hours, and void at one time the quantity of five or six ounces.

## SECTION I.

### DISEASED STATE OF THE INTERNAL MEMBRANE OF THE BLADDER.

THIS consequence of stricture is met with, most frequently, in persons between sixty and seventy years of age, the parts at that period being less able to recover themselves than earlier in life. I had met with the symptoms of this complaint in one or two instances, but could not imagine what was really the state of the bladder that produced them; and the following case, in which I had an opportunity of examining the parts after death, was the first that gave me a complete knowledge of the disease.



## CASE 1.

A gentleman, sixty-seven years of age, had laboured under a stricture for thirty years. He was very nervous and of a delicate weakly constitution, and therefore had the symptoms with unusual violence. The bladder had been so much irritated twenty years before I saw him, that Sir Cæsar Hawkins had thought it right to sound him for the stone, which was done by a very small instrument, but none was found. From that time he was in the habit of passing small bougies, sometimes into the bladder, at others only for a few inches down; and whenever an irritation came upon the canal, he felt relief, both to the parts and to his mind, from the use of a bougie. He had had frequent alarms of a total suppression, but passing a bougie removed them.

In May, 1797, he first put himself under my care. At that time he was much emaciated, very nervous, and exceedingly weak; the urethra was naturally small, very irri-

table, and there was a stricture two inches from the external orifice. This required six applications of the armed bougie for its removal; and although the pain of the caustic, or rather the alarm of what that pain might be, had a great effect upon his nerves, it in no respect increased the symptoms, but rather had a contrary effect.

After this stricture was removed, another was met with at  $5\frac{1}{2}$  inches; this was destroyed by ten applications of the armed bougie; and a third, or the original stricture, situated at  $6\frac{1}{2}$ , was now within the reach of the bougie. So long a process in a patient of this description had a considerable effect in increasing his nervous affections; and when the armed bougie was applied to this stricture, he had the idea of a total suppression being a necessary consequence, and such is the effect of the mind upon the body, that he actually brought one on in the middle of the night, which went off by passing a bougie. This was however prevented in future, by having a surgeon to

sleep in the house, for he never had a suppression when he felt himself within reach of assistance. In proof of this, it may be mentioned, that one day he conceived he had a suppression, and not knowing where I might be immediately found, became exceedingly anxious, and could not pass a drop of urine. In this state he called upon me and accidentally found me at home; he said he had a suppression, and must have died had he not been so fortunate as to find me. I begged of him to compose himself, assured him that he could make water very well, and that it was unnecessary for me to give him any assistance; at my request he attempted to make water, and it passed without any difficulty. This stricture required twenty applications of the caustic for its removal. In consequence of the passage being made open the symptoms abated, but were not removed. The frequency in making water continued; the longest period it could be retained, during sleep, or when the mind was amused, was



$2\frac{1}{2}$  hours, and at other times he not unfrequently made it every half hour. The urine very often was clear, pale, and limpid, what is commonly understood by urine of a person whose nerves are agitated; at other times, it deposited the different sediments met with in the urine of patients whose bladders are in a state of irritation. This led to the belief that an ulcer had formed in the internal membrane, an opinion I endeavoured to controvert, upon two grounds; the one, that the same appearances had been met with where no ulcer had formed; the other, that the discharge, which was now occasional, in that case should be constant. It became a question whether a stone might not be the cause of the symptoms continuing. The bladder was examined by drawing off the water through a flexible gum catheter, and applying the point of it to the different parts of its internal surface while in a contracted state; no stone could be felt, but there seemed to be an extreme tenderness wherever the instrument touched.

A bougie was passed once every two months, to ascertain that there was no return of the stricture.

The winter of 1798 was uncommonly severe, which increased all the symptoms, and even brought on strangury, which I have already stated to be a common symptom of an irritated bladder, from whatever cause it may arise. In January, 1799, the patient's house caught fire in the evening, which agitated his nerves very much, as well as exposed him to the effects of cold. In February the frost became very intense, and his stranguries were so severe as to require the water being drawn off, which was done by his servant when it was found necessary.

On the 1st of March he deceived himself, as well as his servant, into a belief that he had made water several times in the night; but when I saw him in the morning, he was in the state of stupor attendant upon an overcharged bladder, which made me doubt his having made any; I therefore drew it

off, and the quantity was double what he had at any one time retained for some years. Emptying the bladder took off the stupor, but it soon after returned, and in thirty-six hours he died.

On examining the body after death, the kidneys and ureters were nearly in a natural state. The coats of the bladder were of nearly twice their natural thickness; but the internal membrane was not rugous, which is a consequence of the muscular coat having become fasciculated. The internal surface of the bladder, cursorily examined, was soft, and nearly of its natural appearance, only unusually vascular. When examined with more attention floating in water, it was found to have lost the natural polish as well as smoothness, and to be of a spongy texture.

The prostate gland was in a small degree enlarged, and when inflamed might have caused the suppressions immediately preceding the patient's death.

The space formerly occupied by two of



the strictures was very readily discerned ; but the slighter ones had left no appearance whatever. Where the one nearest the bladder had been, the coats of the urethra were consolidated, rendering the parts less yielding than natural, but the surface of the canal at that part had the same polish as the rest, and was one continued membrane, only of a lighter colour, and more transparent ; in the situation of the other, the same appearances were met with in a slighter degree.

In this case, the stricture had brought on a diseased state of the internal membrane of the bladder, which had never after recovered itself.

## CASE II.

A gentleman, who lived about ten miles from London, sixty-three years of age, consulted me on account of a disease supposed to be in the neck of the bladder. The symptoms he principally complained of were periodical attacks of irritation in the bladder,

evidently attacks of inflammation on the inner membrane of that viscus, attended with great frequency of making water, strangury, and a discharge of gluey viscid mucus. Two of these attacks had been so severe that his life was despaired of. On examining the urethra, there were evidently two strictures, which appeared to me the cause of the symptoms in the bladder, and he put himself under my care for their removal. While under the use of the armed bougie he had two or three attacks of ague, but all the symptoms in the bladder gradually diminished, and when the strictures were removed he returned into the country. About a fortnight after he left town, in one night there was a sudden change in the temperature of the air, and the thermometer sunk to  $25^{\circ}$ . This had an immediate effect on his bladder, and brought on an attack of inflammation. To remove this I directed the use of opiate clysters, the first of which gave immediate ease; but so much was the medical attendant

alarmed by the constipation it produced, that they were not persevered in, and the patient died.

On examining the body, the only morbid appearance was an inflamed state of the internal membrane of the bladder, similar to that in the last mentioned case.

### CASE III.

The following case I am particularly anxious to lay before the public, for several reasons. It is one which Daran, and every surgeon of eminence since his time, had taken charge of without success. It is one in which Mr. Hunter tried the caustic without performing a cure; and this failure was made so generally known, that it went a great way in throwing the use of the caustic in cases of stricture into discredit. It is one in which another surgeon gave an opinion, that a perseverance in the use of the small bougie would succeed, as in his practice it had never failed; and yet this mode of



treatment, although tried to the utmost, did not answer. Besides these reasons, it is so accurately and so well drawn up by the patient himself, that it states the whole of the case in the most comprehensive manner, which is not done in any of the cases in the former Volume, from want of the same means; and as such a diary, in a work of this kind, must be of great use, I avail myself of this opportunity of supplying it. I regret exceedingly that it should be classed under the present Chapter, as it would have gratified me highly that this patient should have passed the rest of his life free from complaint.

CASE OF A GENERAL OFFICER, DRAWN UP  
BY HIMSELF.

Having been afflicted with complaints in the urethra since the year 1770, in the year 1793 the canal was almost closed, the scrotum swelled to an enormous size, and in a few days burst, when more than half a pint of matter and blood issued from

the wound, and a mortification ensued, which the faculty thought (as I have since known) would end in my death; yet, with good stamina, I got over this crisis; and by perseverance in the use of the bougie obtained a tolerable passage, and, after more than twelve months confinement, I found myself so much recovered as to ride on horseback thirty miles without halting, and this too more than once, without the smallest inconvenience. Finding myself tolerably well, unfortunately I neglected the use of the bougie totally, till, in 1796, I found myself again attacked with a difficulty of passing my urine; and, to my surprise, when I attempted to pass a bougie into the bladder, I could not succeed. I then commenced again the bougie process, but after repeated attempts, and those for a continuance of eighteen months, I could never pass a bougie into the bladder of the smallest size. In May, 1798, the surgeon who then attended me, and who was a person for whom I had a particular friendship, seeing that all

his endeavours had been fruitless, asked me if I had ever read Mr. Home's publication upon the Diseases of the Urethra? I had.— But the second edition? because that contains more cases than the first. No, I had not read the second edition; but I had an invincible objection to any trial of the caustic, because I had suffered so much under Mr. Hunter's application of it, for seventy days, and without the least ground being gained, that I was resolved never to try it again. But my friend urged to me to read this book, and there I should find that Mr. Home had very much improved upon Mr. Hunter's practice, and had performed such cures, that he thought I should be induced to change my opinion. I immediately sent for the book, and read it twice through, most attentively: relying upon the fidelity of these reported cases, I told my friend, the surgeon, that I had altered my opinion, and should consult Mr. Home the very next day.

May 29, 1798.—Mr. Home attended me, and probed the urethra with an enormous



sized bougie ; it did not enter three inches. He then introduced his caustic bougie (almost as large). The extension caused by the size of the bougie gave me pain, but that which arose from the application of the caustic was nothing, in comparison ; so little, that I did not know that his second bougie was armed with it. The whole operation was less than two minutes. In less than ten minutes the pain subsided, only leaving a smarting in the urethra.

Within an hour I experienced much pain in my left thigh and leg, and this was so intense that I could not close my eyes during the night.

May 30.—The pain in my leg and thigh extremely severe ; made water more frequently since the application of the caustic, but it flowed very naturally. I had little or no irritation in the urethra, uncommon, I am told, in cases such as mine : if it had not been for the pain in the leg (supposed to be rheumatic), I should have declared myself much easier since the application of

the caustic. The pain in the leg not supposed to have any relation by sympathy with the operation on the urethra.

May 31.—Mr. Home attempted to probe the urethra; when he withdrew his probing bougie, much blood followed. He would not introduce his caustic to-day; his reason, that the slough from the former application had not separated.

The pain in the leg equally violent; that in the thigh somewhat abated, but no sleep.

June 1.—Made water very often, but without much difficulty; scarce any stream. The pain in my leg very violent, but seems shifted. Fomentations, &c. were used.

June 2.—Got a little sleep; the pain in my leg not quite so intense. This morning the caustic was applied to the first stricture. Home said it was a fair application, about a minute; when he withdrew it, blood followed. I felt some considerable sensation for a quarter of an hour from the effect of the caustic. Blood flowing I only mention as a circumstance to relate, not as a

mischief, nor even an inconvenience ; on the contrary, it was stated to me rather as a proof “ that the caustic had acted on the stricture.” I have a considerable mucous sediment in my urine, but it is only apparent from twelve to twenty-four hours after the application ; it is not adhesive, as I have experienced, nor offensive in smell, as it often happened, nor was the quantity nearly so much as I had formerly observed. The urine has a faint smell, resembling that which is made by a person in health, when he first makes water after eating of asparagus.

N. B. Before the application of the caustic I had, after sitting a very few hours, a swelling of the scrotum, which always subsided within an hour or two after being in bed ; but that swelling has not since happened.

June 3.—The rheumatic pain continues ; on that account I have very little sleep. The urine does not pass so freely ; a small



degree of irritation is felt, which occasions frequent attempts to make water : it is changed in colour, small drops of blood passing with it, and the smell worse than yesterday. The fistula in the perinæum is open, but very little water or matter issues from it ; yet just enough to wet the lint which I always wear over it.

June 4.—This morning I complained to Mr. Home of the symptoms of yesterday ; he saw blood on my shirt, which had passed involuntarily. I stated to him also, that I felt a swelling in the urethra, about three inches down, where I supposed the caustic had acted ; both the surgeons felt the part, but did not appear to join in my opinion : however, Mr. Home would not try the caustic to-day. He examined my urine ; and although there was much mucus, observed it was nothing in comparison to what we both must remember to have seen in my case.

The rheumatism continuing, I obtain

very little rest: before I began the use of the caustic I slept well; but I had not then any rheumatism.

June 5.—A very restless night. Rheumatism severe, and the pain in the urethra increased; blood in small quantities passing with the urine; much irritation, and very little water made. There was a phimosi over the glans of the penis. When I mentioned this circumstance, both surgeons felt the urethra, and found that swelling which I had before mentioned. Blood, at times, oozing. The urine of yesterday, which was purposely kept, was then poured into another bason, and there remained an astonishing quantity of mucus, and it had a smell so extremely offensive, that we were obliged to purify the chamber. Mr. Home candidly declared, that all these unpleasant symptoms were to be ascribed to the operation of the caustic, which had created an inflammation in the urethra, and which he said would go off in two or three days; that we both well knew the irritable state of my

bladder, and that the first operation of the caustic affected men differently. Many were attacked with the fever and ague, which were the symptoms he most disliked; with me it attacked the bladder; but as soon as a discharge should flow from the urethra, the inflammation would gradually subside; that there was nothing to be done but remain quiet, and keep the body open with my opening pills. My being habitually so very temperate, no advice was necessary as to eating or drinking; but to be very careful to guard against getting a cold. The further use of the caustic was deferred until a more favourable moment.

Here I must observe, that I obtained Mr. Home's consent to attempt to pass a bougie. Now it must be remarked, that before I commenced the use of the caustic I could without difficulty pass a middling sized bougie betwixt six and seven inches: I this day tried, and could not pass one beyond three inches and a half; so that, in fact, the operation of the caustic has produced an



obstruction at that distance, which I never experienced before. When I withdrew the bougie it was turned at the point, and had the same appearance of having been obstructed in its progress, as when I was accustomed to withdraw the bougie at six inches and more.

I supposed, that if I was a young man and labouring under my present inflammation, a chordee would be the consequence: I stated the question; Home said, most certainly.

I cannot help thinking that if a bougie of a more moderate size had been used, the inflammation would have been much less. I knew the irritability of my bladder, and previously mentioned my apprehension of the consequence to my surgeon, who told Mr. Home the apprehensions I had of this enormous bougie. He said, "I don't think a smaller would be effectual; I have tried it lately with a gentleman from the East Indies, but afterwards had to go

over the operation again, by being obliged to use the larger 'bougie.'"

Rheumatism continues severe.

June 6.—The inflammation in the urethra still continues; very frequent irritations to urine; always passed a small quantity of water, and without any great effort. The phimosis increased, hanging down above half an inch below the end of the penis, which was itself somewhat swelled, and very tender if pressed at the part inflamed. The urine to-day much more in quantity, of better colour, and not so offensive in smell; though, after standing some time, there appeared a great sediment of mucus, and that adhesive to the vessel which contained it. I took an opening pill yesterday, which produced the effect required, three lax motions. To add to my sufferings, the rheumatism extremely painful and without ceasing; no rest; worst in the night. Drops of blood on my shirt from the wound in the urethra, but less

than the preceding day. Very little appetite.

June 7.—Had rather more sleep than for several nights past; but it was not sound, refreshing sleep, being obliged to urinate very often in the night. The phimosis decreased, but the urethra still inflamed. Both surgeons visited me; made water under their inspection, small in quantity, but a stream beyond their most sanguine expectations. Mr. Home proposed on Saturday to renew the application of the caustic; I replied, that if the inflammation in the urethra was subsided by Sunday I would then make another trial. Not near so much sediment in the water, nor the smell in any degree so bad; and this change in the urine, Mr. Home said, was another proof that our unfavourable symptoms must be imputed to the caustic. He expects that before Sunday the discharge of blood will cease, and a discharge resembling that from suppuration will ensue.

June 8.—Rheumatism very afflicting.



The inflammation in the urethra decreased; the phimosis less. Very frequent irritation to make water, but urine without difficulty; the water passing in a very tolerable stream, considering the very small quantity of water which is evacuated each time; very great sediment of mucus, but the smell not so offensive. This evening took a warm bath; found myself relieved whilst in the water, and passed a better night than since my first attack; had some intervals of refreshing sleep. My body kept very open by the pills.

June 9.—In the morning, and indeed until evening, much relieved from rheumatic pains; at night they returned as violent as ever. The inflammatory symptoms in the urethra almost at an end: make water frequently, and without any straining. I find it best to take diluting liquors in more than ordinary quantity, but not to any great degree. Bad night's rest.

June 10.—This morning both surgeons attended me; I stated my situation. All

the disagreeable symptoms of the urethra had subsided: I was ready again to receive the caustic, provided Mr. Home thought it would be proper to pursue the use of it whilst I was under so severe an attack of the rheumatism; he pitied my sufferings, but said it would not interfere with the operations of the caustic: then I determined to proceed. He introduced his probe bougie; with some exertion it passed the first stricture at 3 inches, and he persisted to conduct it to a second stricture at  $4\frac{1}{2}$  inches. It gave me infinite pain, for a very short period. He was highly pleased with this day's application, and for this reason, that it would convince me that the *sound* part of my urethra would admit a bougie as large as that which had been introduced, and that as one stricture was destroyed he could pass on to another; thus proving, that the intermediate space betwixt each stricture was not affected. This day's operation has certainly convinced me of the truth of his reasoning, and has enlivened my hopes of

ultimate success. I asked of him, if the pain would be greater as we proceeded, and if I was at each stricture to expect such consequences as I experienced with the first? He thought not, and that the farther we advanced the operation would be less painful.

No caustic was used to-day. He reminded me that the first stricture had been passed, with only twice touching it with the caustic. He observed to me, that those strictures which render most acute pain to the patient from the caustic most readily yield a passage.

N. B. The fistula is closed, so that neither water nor matter has oozed from it in these last twenty-four hours.

June 11.—The rheumatic pain not quite so severe. No uneasiness in the urethra, but very frequent inclination to pass urine, sometimes every half hour, but the water passes without effort; yet in the course of this night I slept better than since my being attacked with the rheumatism. The state of the urine much altered for the



better, yet still much sediment after it has been kept twelve hours. Body open.

June 12.—Home passed his probe bougie to the stricture at  $4\frac{1}{2}$  inches; it gave me great pain, but not so much as the last time he introduced it. When he withdrew it the end of the bougie was much jagged, bearing evident marks where it had pressed on the stricture; he then introduced his caustic bougie, which was applied to the stricture about half a minute and then withdrawn. I felt it operating powerfully; soon after some drops of blood followed, and continued very gently to ooze from the orifice of the penis for many hours, accompanied with heat and uneasy sensation. Mr. Home told me that he thought *he now saw his way*. I was very glad to hear him express such an opinion.

June 13.—Rheumatic pain rather diminished; felt myself less incommoded during the night, but my sleep was not sound; frequent irritation to make water, passing but little at a time; yet it was without

straining. Body open, taking a pill or two to produce this effect almost every other day ; much stress is laid upon this point.

June 14.—Had some sleep in the early part of the night, but in the morning found myself uneasy ; I had more than once attempted to urine, and it only issued by drops. The phimosis appeared. I mentioned these circumstances to Home ; he examined the parts, saw no inflammation in the glans of the penis, and when he pressed the urethra I felt no great degree of pain ; he said he saw nothing to prevent him from continuing the application of the caustic. “ Since that is your opinion,” I said, “ proceed ;” at the same time I dreaded the operation. He advanced his probe bougie 5 inches ; I could feel it pass the stricture ; it gave me exquisite pain for the moment : he then introduced his caustic, and continued it for three quarters of a minute ; it passed  $5\frac{1}{4}$  inches. The pain from the operation of the caustic is not so severe as the pain from the distension

occasioned by the probe bougie ; the latter certainly widens the passage, so that the chief pain arising from the caustic bougie is that of burning the diseased part of the urethra, which perhaps is not so sensibly alive as the sound part. After he withdrew his bougie, he observed some slough upon it, which he supposed might have obstructed the passage, and occasioned that difficulty of which I had this morning complained. He was pleased with the progress ; and then said to me, that knowing as he did, how many years I had laboured under this complaint, he did not expect the the strictures would have so readily yielded to the caustic. Blood did not issue immediately after the operation, but in less than a quarter of an hour it began to drop freely. About an hour and half after the application I had an inclination to urine ; I was in doubt whether I should succeed ; but I did, and in a tolerable stream for the quantity I made, having first passed some



coagulated blood; very great heat in making water.

June 15.—Had the best night's rest that I have experienced since the use of the caustic: I am convinced that my want of rest has proceeded from the extreme severity of my rheumatic complaint, and not from the use of the caustic. The smell of the urine, always to me so indicative of the state of the bladder, is now but very faint, and the sediment, after being kept twenty-four hours, in the hot weather of June, is but little, and that little not adhesive. I remarked this morning, as a thing to me very uncommon, having had four hours sound sleep. I urined in a continued stream, and that so large (for me) as to be a matter of great satisfaction, because it was a proof that my urinary passage was not in fact so generally obstructed, as I had reason to apprehend. Body kept open.

June 16.—Very early this morning I awaked extremely indisposed in my sto-

mach; I drank most copiously of warm water, and filled two large wash-hand basins with what I brought up, perfectly cleansing my stomach. This vomiting is not to be attributed to the use of the caustic: I am of a bilious habit, and generally once in six weeks am relieved by the discharge of it, in this simple manner. The caustic was applied this morning near a minute; pain exquisite for a very short period; it went up  $5\frac{1}{4}$  inches. It appeared most incontrovertibly, by the end of the probe bougie, that it had entered into the stricture, as the impression of that entry was left on the end of the bougie. The pain did not continue so long, after the use of the caustic, as on former applications. In about five minutes after it was withdrawn, blood began to pass out of the orifice of the penis. There remained an irritation in the urethra for many hours.

June 17.—Very indifferent rest, making water very often during the night. The scrotum was swelled: I do not consider this

as arising from the caustic, but from the pressure of my seat. I cannot sit with comfort on a flat surface, (there is a hardness, probably arising from the cicatrix of the wound formerly mentioned), so that I am obliged to use a thick cushion, with a square piece cut out in front, in order that the scrotum may be pendant. This sort of swelling has happened frequently, and subsided after I had been in bed an hour or more; but little pain attends this swelling. About noon I became composed, and felt myself more free from pain or uneasy sensation, than at any time since I commenced the use of the caustic.

June 18.—I had a remarkably good night, made water only four times, and without any exertion. Mr. Home repeated his application, and went only to the former stricture; he had no expectation of passing it; but it was again evident that he had penetrated into it, by the appearance of the probe bougie when withdrawn. Reflection convinced me, that I could only obtain



relief in proportion as the caustic operation destroyed the stricture; therefore, painful as it was, I determined with myself to endure the caustic in the urethra as long as I possibly could, that is to say, as long as my operator thought it necessary to keep it there; for I must acknowledge, that sometimes I requested him to withdraw it before he seemed disposed so to do; and this day, without any observation from me, the caustic was continued in the urethra much longer than at any former application. I don't think the application itself was quite so painful as some I had before experienced, yet bad enough; the actual burning of the caustic is most violent, on its first touching the flesh. I am persuaded that I should, upon the totality, feel the pain much less intense, if it was not the enormous size of the bougie; it creates such a tension of the urethra, as to render it scarcely supportable. It was more than three hours after the application, before I

made water. Here I must remark, that the canal of the urethra was almost closed; three parts in four of the urine I made was through the fistula, and it was voided after much straining. This was a circumstance I had not observed before, for some weeks. The fistula was sometimes closed, sometimes open, but nothing issued from it more than would moisten the lint that covered it. In a few hours, when the coagulated blood shall have passed, I suppose the urethra will admit of a free passage for the urine by the natural channel. Body open, very quiet pulse, and no oppressive heat; notwithstanding it is the hottest day we have had this year, I have no perspiration about me, whilst every person who has called upon me to day has complained of the oppressive heat of the air.

In about  $5\frac{1}{2}$  hours I urined a second time, and with much difficulty; water mixed with blood, passed chiefly through the fistula, and in a very small quantity. I felt

that I had more urine to discharge; I made a great strain, something of a soft substance was expelled from the orifice of the penis; immediately the water issued from the natural channel, and in a tolerable stream. I felt myself abundantly relieved; it was partly slough, and partly congealed blood. Rheumatism not quite subsided.

June 19.—The operation of yesterday continues to be felt; it has been attended with more pain than any preceding application. I have had a swelling in the scrotum, and a considerable difficulty in passing my urine, and yet after a tolerable night's rest. I urined this morning in a stream so strong, that I was convinced there could be nothing very alarming. On those occasions, I generally could urine but a little, and even that little would not pass without straining. The water has a bad smell, and much sediment, resembling glue. I did not in this whole day recover tranquillity, such as in the intermediate time I usually accomplished. The scrotum continued swelled,



not extremely painful, nor yet very hard. I am apprehensive that we must defer the use of the caustic on this account.

June 20.—I had what I consider a tolerably good night's rest; Mr. Home was pleased with the following report. Urined at 10 last night, at 2,  $4\frac{1}{2}$ ,  $8\frac{1}{2}$ , 11, and 1, which was only six times in fifteen hours. He said that when a patient declared a considerable diminution in the frequency of making water, he asked no other questions; for to his judgment, that was the best symptom. The swelling of the scrotum being much assuaged, he applied the caustic; he passed through the stricture to full 6 inches. The operation very painful; he kept the caustic almost a minute. He is quite satisfied with the general progress we have made, which has exceeded his expectations. He expressed an opinion that the passage from the stricture at 6 inches, to the next may be so contracted, that the probe bougie could not immediately pass to it; he has known it in many instances.

I hope his opinion will not be verified, and that ~~we~~ shall not meet with any difficulty until we come to the stricture at 7 inches, which I have long known to be my grand obstacle to passing a bougie into the bladder. Blood oozed from the orifice of the penis after the operation, but the pain, violent as it was, subsided within half an hour after the caustic was withdrawn.

At half past three I made water, but the pain was extreme; more blood than water; this happened whilst I was at the water closet. I had very uneasy sensations; at four o'clock I had a very severe fit of the ague; it lasted with force until six, when the more violent effect began to subside. In the commencement I vomited a little, but it did not go kindly off my stomach; about eight, I began to feel a gentle perspiration, and the pulse to moderate, but the hot fit was comparatively gentle; the perspiration was never so profuse as to render a change of linen necessary; great thirst; drank copiously of weak orangade; urined very often,

for the first four hours every half hour, always passing more blood than water; and in the intervals, great discharge of blood from the orifice; this continued until past midnight, and then had not quite subsided.

At eleven I took thirty drops of laudanum and was ordered an injection of fifty drops; but as the parts became more tranquil, I did not use it; took a purging pill to counteract the effect of the laudanum. I had very little sleep, and that little confused and disturbed; at six o'clock, I found most of my feverish symptoms had subsided.

June 21.—The desire to urine continued very violent; the interval never exceeded an hour, sometimes not half so long. I drank plentifully, and by that means the water passed tolerably easy, though there was so much coagulated blood mingled with it, that sometimes it required exertion to obtain a passage. I found myself much heated in the body, which I imputed to the opium; the pill which I took last night



produced not any effect, therefore at one I took a dose of anniseed tincture of rhubarb, and about seven I had a very copious evacuation, which much relieved me; pulse moderate, and nothing particularly distressing, but the extreme frequency of making water. Got some little sleep during the night.

June 22.—Found myself this morning very costive; passed some little fæces, hard almost as marbles; immediately took two table spoonfuls of the anniseed tincture of rhubarb. When my surgeon called and heard my report, he was not surprised; these agues being frequently the concomitants of the operation. Two things he very particularly recommended, keeping my body open, and if the fit returned, to promote perspiration as much as possible, by keeping the body warm, and drinking copiously of some diluting liquors; for he said a very profuse perspiration would probably prevent the return of an ague fit, until after we had passed another stricture. He was

not at all dismayed at this little impediment to our progress, he had expected it sooner; he had indeed told me as much, and his book mentions many cases, in which the ague fits appeared. He advised a clyster of warm water and oil, to cool the parts adjacent; this was performed immediately after he left me. The consequence was, that I passed a considerable quantity of hard fæces which in some degree had barred up the passage; when it came away, I felt my body much relieved. A total loss of appetite since the ague fit; very little sleep during the night; my skin dry; pulse irregular; upon the whole very restless, with a violent partial head-ach; the same symptoms continuing, a strong purge was prescribed, but as I had eaten much fruit, did not then take it. The only alteration I observed in myself was, I had not the desire to urine quite so often as on the preceding days.

June 23.—At three this morning took the purge, which in the course of the day

operated five or six times, so as perfectly to empty the bowels. To day for the first time I could eat some chicken, and took a large quantity of chicken broth, made very palatable; the feverish symptoms abated, but still restless; however I passed a more comfortable night than I expected, having had some sleep; the head ache not quite so violent.

June 24.—I found myself better to day, than since the attack of the ague. The head ache much diminished, and a general moisture pervading my whole frame, eat some chicken with appetite, and took a good quantity of nourishing broth; less irritation, sometimes two, and once three hours intervened betwixt the times of making water. After keeping my bed since Wednesday, I found myself able to dress and to take the air in my carriage. Mr. Home said, that on Wednesday he thought of renewing the application of the caustic.

June 25.—Did not go to bed till past three, and had more rest than for many



nights past ; the head ache no longer affects me. The same intervals continuing betwixt the time of making water, but that which I do pass is very turbid, appearing as if mixed with blood, and my shirt stained with a red tinge. After the urine of yesterday had stood four hours, there was no longer any sediment, such as, more or less, I have perceived every day for many months ; but there was a considerable quantity of gravel. This was quite a new symptom, as it is now many years since I have passed any thing of the kind. Went out this evening in my carriage ; had more sound good sleep last night, than for many months ; I marked down the hours when I made water, because the change is so great, 10 P M, 2 A M,  $7\frac{1}{2}$  and 10 A M ; so that I only urined four times in twelve hours.

June 26.—More gravel in my water than even yesterday, and no sediment, but the urine still extremely turbid, and the shirt stained with blood. Body open, having had two motions from a single pill which I

took last night; no feverish heat remaining. It is impossible for me to chase from my mind, the torture I shall suffer to morrow; but I must endure it, as without the application of the caustic there can be no cure.

June 27.—Slept well, was six hours without any desire to urine. Mr. Home was surprised at the bladder having acquired so much tranquillity, and said it was the best report I could possibly make in my situation. He performed the operation, and went  $6\frac{1}{2}$  inches. I bore the pain resolutely, the caustic remained in longer than at any former trial. In less than five minutes after it was withdrawn, I felt scarce any pain, except the smarting of the caustic, which was not severe; upon the whole, this day's operation, which I so much apprehended, (on account of the ague fit attending the last introduction,) was attended with rather less pain than any preceding one. The body is open, the pulse is good, and no symptom of a fit,

and so I remained the whole day to my great consolation; for if the ague fit had returned, it would then have been doubtful, how far I should have been able to continue in the present course. I had two motions. Mr. Home thinks nothing of the gravel which I had passed. My appetite is returned, though I am always moderate on that point; went out this evening.

June 28.—Rested well and had an interval of  $5\frac{1}{2}$  hours betwixt the time of making water, and in twelve hours made it only thrice; I consider this as a great present relief, and an earnest of future success; it is a good resulting from our present system. The urine turbid, but no bad, nor even faint smell, such as I have been long accustomed to experience, and scarce any mucous sediment. I lie in my bed generally eighteen out of the twenty-four hours, because in a reclining posture I feel very little pain; sitting up, and pressing upon the perinæum, produce pain, and sometimes a swelling of the scrotum. Body open, pulse regular, and



as cool as this extreme hot weather will permit.

June 29. Had a very good night's rest, and the same long intervals betwixt the times of making water. Mr. Home performed his operation to-day, and gave me more pain than on any preceding application;  $6\frac{1}{2}$  inches was the distance. He told me that he thought we now were attacking the grand obstruction: I have my doubts, because I used to pass a bougie beyond this distance, and therefore, if I am right in my conjecture, we shall not have so much difficulty in passing this stricture at  $6\frac{1}{2}$ , as I should expect, if I was certain we were now attacking the principal obstruction. If we pass this in the manner I suppose, I am prepared to expect another stricture; but if Mr. Home is right in his opinion, when we have destroyed this, it is possible we shall not find any other material obstacle to the bougie passing into the bladder. The violence of the pain did not continue two

minutes after he had withdrawn the caustic, but I was restless and uneasy for several hours afterwards. Very little blood issued from this operation; but towards evening a very great discharge, resembling that of a violent gleet.

June 30.—Had not so good a night's rest as usual, feeling great uneasiness in the urethra, with a slight head-ache. One interval of five hours betwixt the times of making water. Body open; no feverish heat. Took my pill last night, which produced two motions this morning. Great discharge continues.

July 1.—Although in the course of the last twenty-four hours I urined much oftener than for a week past, yet I had an interval from ten last night to six this morning: eight hours is such a space, that I am perfectly certain I have not experienced the like in the last twenty years of my life. Very great discharge from the urethra, yet not even tinged with blood, but the urethra is more quiet. I complained to-day to Mr. Home of

my head-ache. "I am ready," said he, "to acknowledge any ailments that result from the application, but this head-ache does not belong to me." It is more moderate to-day. Took my pill last night; two motions to-day; and although the weather is intensely hot, I am calm, and free from any very unpleasant symptoms. No great appetite; that is customary with me. Mr. Home was glad the discharge from the urethra was so abundant, as it would diminish the irritation. The external orifice of the fistula has been closed for several days; of course all my urine now passes through the natural channel only; this is a great comfort to me.

July 2.—A tolerably good night's rest. Mr. Home made the application; the most severe I have yet felt; very near fainted with the excess of pain. He shewed me the end of the probe bougie; it had entered only  $6\frac{1}{2}$  inches, but there was a visible circle imprinted on the wax at the distance before mentioned. He was much pleased with



this appearance, because it was to him conviction that he had made an impression upon the stricture. He stated that the extreme pain I had this day suffered arose from that very cause, namely, having entered the stricture. The length of time that the caustic remained in the urethra was rather greater than usual; very little blood issued, and not so much discharge as for many days past. Mr. Home still seems to think this stricture to be the main obstacle; I sincerely hope he may be well founded in his opinion, for it requires every exertion of my fortitude to support these severe trials. Body open. I have a tendency to vomit, which I do not encourage. The urine passes without much straining, but I feel great sensation in the urethra, and cannot *sit* with any ease.

July 3.—I had a tolerable night's rest, much better than I expected, for the pain in the urethra still continues, nor do I expect it will recover its tranquillity before I am called upon to-morrow again to

undergo the torture. I expressed a wish to have it delayed another day, but Mr. Home shewed a disinclination to protract, and gave me his reasons; I submitted to them. Took my pill; body open, but I have a languor about me that makes me faint; in short, I have not my usual good spirits; the weather may contribute, it being extremely hot; very little discharge from the urethra.

July 4.—Reported to Mr. Home agreeably to the foregoing statement: he said he then could have no objection to put off the application until to-morrow; I said not *unless* he saw a necessity. I had already suffered so much in imagination, that I desired we might proceed to execution. The application was then made, and was not so severely felt as on the preceding day; I bore the caustic on the stricture longer than at any time before. He is now more confidently of opinion, that this will prove the last obstruction; he penetrated seven inches, but he imputes this little exceeding, not to

having gained so much since our last trial, as to this circumstance, that the penis never receded so little before, during an operation. It was evident from the probe bougie, that he had made a considerable impression on the stricture. I wished to defer any further application till Saturday instead of Friday; he wished no delay, and thought that I should feel more, after a great interval than a lesser one, and brought the experience of this day to support his argument. I could only submit; Friday then is the next trial; all things considered, I had an extraordinary good night's rest. Body calm and open; temperate pulse, and no great uneasiness in the urethra; no blood, yet a moderate discharge of a yellow fluid, rather gummy in its nature; my urine flows in a stream more like in health, than I have experienced for a long time; in short I have many symptoms that are favourable, and not one unfavourable to our progress; this is a great encouragement to persevere. How different my feelings



and hopes are now, compared with those I had while I was under the care of Hunter, when after 70 days suffering extremely, and making no progress, I was obliged to tell him, that there was a point beyond which I could not endure, to that point I was now arrived, and therefore should desist from any further application of the caustic.

July 5.—A very good night's rest; having taken my pill had two motions this forenoon: I do not remember to have passed a day with so little pain for many years. Body open; temperate pulse; little or no irritation to pass urine, which, when necessary to be made, flows in a tolerably good stream, such as surprises me, not knowing that blessing for such a long period of time. All these circumstances induce me to believe, that some considerable impression is already made on the stricture which is our present obstruction. I now feel nothing of that tormenting symptom of this disease, which I have so long experienced, namely, a

sensation to make water after having made all that would pass, and this continuing for some time, until I had passed a few drops more by dint of straining, to expel what might be in the bladder, or in the channel of the urethra behind the stricture. I find myself very weak, and I am sure could not walk half a mile, owing perhaps to remaining for so long a time in my bed, and being incapable of taking any exercise.

July 6.—I had a remarkably good night's rest, and only urined thrice in ten hours. Mr. Home applied his caustic in the usual manner; the probe bougie was more severe than the last time, but it bore no sort of comparison to the pain I had formerly felt; he kept in the caustic as long as during the longest operation. It is not the pain of the *burning*, that affects me most; it is the distension of the canal of the urethra, that is the torture; it went  $6\frac{1}{2}$  inches. Home thought we had been very fortunate in proceeding thus far with so very little stoppage or impediment to the process of cure, and by his

conversation, he thought we were in a very fair way of obtaining it, much sooner than he expected, when he commenced his operation, and in which I join, for to be sure my case was a very deplorable one. Took my pill last night, had two motions this morning; feel quite calm and temperate; from one, the hour of application, till half past nine, urined but twice.

July 7.—Felt the last application much more sensibly than the former, and the uneasiness continued many hours; I use the word uneasiness, because the sensation did not amount to pain. I had a very good night's rest, and very few calls to make water; took my pill last night; body open; pulse regular, and my whole frame *tranquil*, that is, comparatively.

When my operator enquired this morning of my actual state, I said that I had no complaints to make, and that I found myself much relieved from many miseries I suffered before we commenced this system. I had a very good night's rest; he made



the application near 7 inches. I had often resolved within myself, not to request him to withdraw his caustic from the urethra, but to wait until he did it of his own accord. From the violence of the pain, I never could keep my resolution until this morning; he was quite satisfied with this day's practice; upon withdrawing the caustic bougie, (which was quite new) he shewed me the end of it, and there was a mark across the bottom, as if it had been made by a sharp instrument; this he said was the effect of pressing upon the stricture, and from that appearance on the bougie, we must have made a considerable impression on the stricture. I asked him if it was common to meet it in his practice; yes, frequently; and that in obstinate strictures like mine, he always looked for it, and when it appeared, was a favourable omen. In a further general discourse on my case, he used this expression, *that he thought we were now upon velvet*, which I comprehended and translated most favourably.

More blood followed to day, than for a considerable time past, but the urethra is, comparatively, quiet; body open; calm, steady pulse; he enquired of my appetite; not good; but the failure not to be imputed to his operations; for as I have before remarked, I eat little, and drink less than most men. My urine free from bad smell, or mucous sediments; the discharge from the penis is very considerable, of a white glutinous matter, but this does not take place till 12 hours or more after the use of the caustic.

July 9.—Slept well, and no unfavourable symptoms; took my pill, had two motions; I am exact in this detail, because my operator lays great stress in keeping the body open.

July 10.—Underwent the operation; the pain not so very acute as heretofore; I did not utter one word during the whole of the application; not quite 7 inches. I asked him if he was satisfied with the work of the day; very much so, was his answer, and

particularly as he observed, for the first time the bougie passed over the places of the former strictures, imperceptibly to his feel; for until this day, he had always felt a little kind of a jerk, on the bougie passing over those places where the strictures had been destroyed. He says the stricture we are now burning is very obstinate; but to my great comfort he added, being so obstinate and so far down, he was still more confirmed in opinion that it would be the last we should find. Slept remarkably well. Mr. Home said a thing to-day, which rather surprised me; I was observing how fortunate I had been to have escaped from any more ague fits; I should not be sorry now if you had another, because I should consider it as a proof of the stricture giving way. Possibly then, when we get through this stricture, he expects another ague fit, and is preparing me for it.

July 11.—In much the same state as yesterday; but my general health is so much improved, that I ventured to dine



abroad for the first time, in many months, and found no inconvenience resulting from it: slept well.

July 12.—Made a most favourable report to Mr. Home of my actual situation; he passed the caustic to the same length. Perhaps habitude renders it less tormenting; I sustained the application without a murmur; he kept it unusually long in the urethra. I remarked to him that the discharge from the penis was greatly diminished; I enquired if he was satisfied with the operation of the day; very much, was his answer. He shewed me a circle round the probe bougie, near to the point, and observed, that from the point of the bougie to the circle, so far was the space which the bougie had entered into the stricture; it does indeed appear a very obstinate one, but happily I am now enabled to bear, and without very excessive pain, the application of the caustic; and whilst that application is not attended with any disagreeable symptoms, I regard not the delay, but look

forward with confidence; the whole tenor of my life, considering it comparatively, is pleasant, because I have no constant suffering; whereas before this system was pursued, I very seldom had any degree of ease.

July 13.—Slept well; body open; long intervals betwixt the times of making water; the stream while making is much amended; but above all, no manner of irritation after I have urined.

July 14.—Extremely good night's rest: In the course of the last twenty-four hours, there was the space of sixteen, in which I only urined thrice, at the intervals of 8 hours, 4 hours, and 4 hours. It is a change most delightful to me, as it enables me to dine and sup abroad without the least inconvenience, carrying with me my own chair and cushion. I also feel great relief from the fistula being almost closed, more particularly as the proud flesh which grew round the external orifice of the fistula, is now no more, and that was wont to be almost a perpetual torment, as I never

could, whilst it existed, sit down, without more or less of pain. Omitted the application to-day, as I was absolutely obliged to attend a summons of friendship about the usual hour, at which it is applied. This was in the true sense of the word, a holyday to me, for I felt scarce any pain, that which arose from the last application having quite subsided from so long an interval; very little discharge from the urethra.

July 15.—A good night's rest. When Mr. Home enquired this morning what report I had to make, told him I had nothing to say but what was satisfactory. He applied the caustic; it went to the same distance; I sustained the operation without feeling any violent pain; he continued the caustic in the urethra unusually long. I observed that when it was drawn out of the urethra, notwithstanding its thickness, it was bent very considerably. He said he was well satisfied with his operation; I cannot say I was, for I scarce felt the burning



of the caustic, and there was less pain than usual after it was withdrawn. We certainly have not made great progress in removing this obstacle, to whatever cause it may be owing; but I am quite reconciled to this slow proceeding, because I feel myself so well, and because I can now sustain the introduction of both the bougie and caustic, without such suffering as I formerly experienced, relying confidently, that in time, we shall subdue this stricture, obstinate as it now appears. I was obliged to take two pills, to keep my body open; they have had the desired effect. Very little blood now issues after the application, and the discharge but trifling; walked this evening a mile without any ill effect.

July 16.—I find myself more comfortable, I walk more erect, and can move up and down stairs with much more ease, and have less pain when sitting. I had an interval of eight hours betwixt the times of making water; in short, many good and not one

discouraging symptom. -Body open, a precaution I never neglect; slept well, but discharge considerable.

July 17.—Made the above report to Mr. Home; underwent the application; to the same point as usual. We both agree, that the obstinacy of this stricture should only serve to confirm our hopes, that it is the last obstruction we shall meet with. He was well pleased with his operation, and which I bore without a complaint. Very little blood issued from the urethra, and not much discharge.

July 18.—Slept well, and found myself so much at ease, that I determined to enjoy the cool shade and air of Kensington gardens; walked slowly, at least a mile, and sat down without much pain, on one of the hard wooden benches, for more than two hours; found no ill effect from this first essay. The body not being quite open, took a pill this evening.

July 19.—Had an extremely good night's rest, and rose but once to make water;

what a happy change! the pill produced its usual effect. Mr. Home made the application; I observed that he withdrew the caustic sooner than ordinary; I wished to know if he was satisfied with his operation; he said that the probe bougie did not pass up with its usual facility, and that he withdrew the caustic, that he might not be foiled on Saturday. From this speech, and not having felt the pain of burning, I apprehend he has been foiled to-day; drops of blood issued freely from the urethra, but did not long continue. I feel no inconvenience whatsoever, but great relief from many evils, and I can now bear the operation without shrinking.

July 20.—I do not find myself so much at ease after yesterday's operation, as I have been for some time past; I have more irritation; I urinate more frequently. I have a pain in my urethra, and still greater after sitting any considerable time. I have always had a hardness, which I can feel externally in the perinæm, just below the scrotum.



All these symptoms perhaps, I should not have noticed so very minutely, but as being some deviation from that degree of ease and tranquillity, which for some time past I have experienced in the course of our applications. I slept tolerably well; the body open, and no feverish heat.

July 21.—Stated to Mr. Home these symptoms, with my own remark; he examined the swelling in the perinæum; he thought it to be the stricture we are now working on. I added that it was very possible he might also feel the hard cicatrix of the wound occasioned by the bursting of the scrotum some years since, when under Hunter's care. He performed the application; the latter part was extremely severe for half a minute. I told him before he drew out the bougie, that I was sure he had got upon new ground; he kept in the caustic longer than usual. He observed a mark on the bougie, which convinced him that he had penetrated farther into the stricture than at any former time. These

marks on the bougie, he told me, were to him signals certain, by which he guides his hand, and directs his judgment as to progress; he was very much satisfied with this day's performance, and honestly told me, that owing to the bougie not passing readily to the stricture, he did not in the two preceding applications reach the stricture with the caustic. I guessed as much, which may be perceived by my observations in this journal, for I did not feel the caustic burn the stricture; a pretty infallible mode of judging for the patient, if his mind is not biassed by such a degree of pain, as to prevent him from forming a just idea of the application. Very few drops of blood followed, but for many hours, a small dribbling of bloody water. Body open, pulse temperate, not a very good night's rest, because much disturbed by irritation.

July 22.—Although it is now 24 hours since the operation of yesterday, I still feel the effects of it. The urethra is a little inflamed, but the irritation is less

than yesterday, and of course the desire to make water not so frequent. I feel a soreness in the parts affected, that will prevent me from walking abroad; there is also a great discharge from the urethra, not of white glutinous matter as formerly, but mingled with blood. I had a tolerable night's rest, and a motion this morning but rather bound, and therefore took a pill.

About eleven this evening, whilst conversing at Brooke's club, I was seized with a dizziness in my head, accompanied by faintness. I got as soon as possible into the open air, took a glass of water, and rubbing my face with a wet napkin was rather relieved. Some ether mixed with camphire was given to me, of which I drank a large wine glass full, but finding my head confused, I sent for Dr. Pitcairn and Mr. Hawkins, who was near at hand. My stomach was uneasy; I drank some camomile tea and two quarts of warm water by Pitcairn's advice; I brought up a large bason full from



my stomach, but except the ether and the camomile tea, all was pure water, some phlegm excepted. I returned home and went to bed; these gentlemen, and Mr. Home, to whom I had sent, soon after arrived. It became a question, whether this attack did not proceed from the stomach, (as I found it still much deranged) and the stomach act in consequence of the operation of the caustic. It had formerly produced an ague and fever, and therefore might be the foundation of this attack. I was to take a clyster and laudanum, soon after they left me; I fell asleep and waked not for three hours, then found myself so much recovered, that after taking my pill I sent my attendant to bed, and upon the whole, had a tolerable night's rest. I was directed, if the giddiness returned, to send for a *cupper*, and lose eight ounces of blood.

July 23.—About seven had a motion, rather such as was to be desired; at eleven the medical gentlemen attended; they found

me much recovered ; very good pulse, little or no fever, but still a complaint in my stomach, and much wind ; my head all but well. I requested that the *cupper* might take some blood ; he took eight ounces. Dr. Pitcairn now gave his opinion decidedly, that the giddiness proceeded from the stomach, for if it had been the head originally affected, we should not have got so easily free from the complaint. Before one, I had another motion, very lax. This being the day for the application of the caustic, of course it was postponed as being improper whilst the stomach continued to be deranged. I made water freely ; had much less, or to speak properly, scarce any irritation, but a very considerable discharge of a yellow glutinous nature. I was during the whole attack perfectly sensible, and, as I am assured, gave ready pertinent answers to every question proposed to me, and they were many, as to the mode of attack, and the general statement of my health since I began the use of the caustic. I remember

two very slight attacks of dizziness, but they went off in a minute, perhaps less; but even now, my head is not so clear as yesterday at this hour.

July 24.—Had a most excellent night's rest; slept near eleven hours, but not yet quite recovered; much wind on my stomach; my late giddiness *Dr. Pitcairn* thinks, though acting on the stomach, yet was the effect of the operation of the caustic; deferred the application, to give time to the stomach to recover its former tone. Pulse regular; body open, but still my head, although better than yesterday, is not yet quite as it ought to be.

July 25.—A good night's rest, less wind on my stomach, but my head is not quite clear; I cannot read or write for any length of time, without feeling something that is not giddiness in my head, but very near approaching to it. Bowels in good order; two motions, lax, this morning; eat my dinner to day with appetite. I mentioned to Mr. Home that if he thought



to-morrow he could safely proceed, I was consenting; he named Friday, and even then it would rest, as he should find me on that day. I am rather sorry for this little procrastination, but at the same time think it highly prudent.

July 26.—Better to-day, than since my Sunday attack; no giddiness remaining; slept well; body open; had two motions; pulse in its usual good state; walked a mile, and found myself not in the smallest degree oppressed.

July 27.—Mr. Home renewed his application; the probe bougie did not advance readily; although it is so thick, it softened in his hand and was bending; the caustic did better; he said it went up to the stricture, but I did not feel much sensation of burning. Yesterday, after the little interval of rest, I felt an easiness and comfort pervading my whole frame. Very little blood followed from the operation of to-day. I mentioned to him, what I considered as a very favourable symptom, that the stream

of urine is very materially increased; he was glad to hear it, as it was evident proof of progress. Slept well; had long intervals betwixt making water; none passes through the fistula, not that it is perfectly closed, for in the course of the 24 hours, there is enough of matter oozing out of it, just to stain the lint I wear over the orifice; so that it is not quite healed, and will not I suppose, until we have overcome this stricture, which is yet so obstinate.

July 28.—From the intermission of the use of the caustic for some days, the discharge from the urethra subsided; after the application of yesterday it returned, and was as copious as on any preceding occasion. Slept well; body open; head steady, and no return of giddiness; walked a mile, and no inconvenience ensued.

July 29.—No return of complaint in my head; body open; slept well. Mr. Home performed his application, which, as he said himself, was much more to his satisfaction

than the last; he kept in the caustic as long as in any preceding time; scarce any blood followed, but much discharge. Dined abroad for the very first time since we commenced our course, on the day on which the application was made.

July 30.—Slept well; body open; walked more than a mile.

July 31.—The passage for the urine I think continues more open, as formerly described; slept well; no great appetite, but no great complaint, which makes me easy under the apparently little progress we have made in removing this obstinate obstruction; I say apparently, for I know not how soon it may be overcome. The principal complaint I have, is a hardness to be felt in the interior of the perinæum, which makes my seat so uneasy; but even this is much less than it was before I began the use of the caustic bougie. My water is of the colour of a man in health, with scarce any thing of sediment, and entirely void of mucus, which used to



come from me in such a quantity, and was so adhesive, that without trouble it could not be separated from the urinal; the very disagreeable smell of the urine no longer continues.

August 1.—Mr. Home applied the caustic; he was much satisfied with the operation; upon the probe bougie, the impression made was so apparent, that Mr. Home described the exact state of the stricture, and the effect of the caustic was so visible, that it confirmed his opinion; but it is amongst the very obstinate. I felt very great pain when the probe bougie entered the stricture; he kept the caustic in a long time, and I could feel its operation; no blood followed; body open, pulse regular. This evening I was playing at whist, but obliged to leave the table suddenly, being seized with a swimming in the head: this not so bad as my former attack, yet of the same nature; my stomach affected, much wind, and a sort of inclination to vomit; in about half an hour, with the

assistance of a large glass of Madeira, I recovered so well as to eat some supper.

August 2.—Had a very good night's rest, yet my head is not quite right, and my stomach is complaining; but the pulse regular and temperate. If these attacks do arise from the effect of the caustic, unless we soon pass through the stricture, it may impede our operations; remark, that I had previously described the application of yesterday as severe. The weather remarkably hot; walked in the evening for air, but was soon obliged to desist; shortly after was affected in the same manner as yesterday, my head almost giddy, and my stomach much affected; immediately drank a glass of Madeira, it gave me some relief; two hours after eat some chicken; no head ache. Pulse slow and sluggish, yet I slept well, and had an interval of eight hours in passing urine.

August 3.—Reported these symptoms to Mr. Home; he is of opinion that my complaints proceed from the stomach, and we

know how much the stomach is affected by the caustic. He made the application of it to-day; I did not feel it so severe as the last; but both himself and Mr. Hawkins declared it went quite up to the usual distance. Although my body is open, yet they think it necessary to give me purging physic; I feel myself extremely low spirited, a complaint I do not remember to have made three times in my life. I asked Mr. Home if I was to see him on Sunday for the usual process. He said he should call to-morrow, to see how I was after the operation of the physic, and my state then would determine whether or not he should proceed on Sunday; in my mind full proof, that the use of the caustic is the origin of this giddiness. After proceeding thus far, I should be sorry to desist; but if this giddiness should increase, I must at least suspend the use of the caustic for some time, to recover strength and spirits to carry me through the process. The purging draught has operated powerfully; gave six motions.



August 4.—Slept well; find my head much easier, my pulse more strong, and yet temperate. Mr. Home called to-day, and was so satisfied with my report, that he intends to continue his caustic application to-morrow. In the evening felt some giddiness; however it went off; eat some chicken for supper. Slept well; but pulse low.

August 5.—Mr. Home made his application; he was more satisfied with the progress we made, than on any preceding day; it advanced to 7 inches, but attributes something to the projection of the penis being greater than usual. The examination with his probe was that which formed his conviction. When he withdrew the bougie, and shewed it to me, I could clearly understand, that it must have penetrated at least the sixth part of an inch into the stricture; this impression he judges to be proof positive of having destroyed two-thirds of it. He told me to-day, for the first time, that if the case required it, he had no doubt, but

that he could *now* pass a bougie into the bladder ; we both agreed that *piano* ought to be our plan, but he only mentioned his opinion, to convince me of our progress ; that this day let in great light, and that henceforward it would be only carpenter's work. (I suppose he meant planing the urethra.) I rejoiced to hear this account from him, who is not apt to be very sanguine, at least in expression to his patient. I desired him to examine well the hardness on the perinæum, which pains me sometimes when I am sitting ; he felt the perinæum in several places, and was decidedly of opinion, it was in part the cicatrix of the old wound, perhaps made more sore by the use of the caustic ; and said he should not have been surprised if the old wound had broke out, when we first began our process, and that he even expected it would ; but I did not. However, I am glad to find he considers the hardness as of no consequence, and what will give way when we get a bougie into the bladder. He said it

was very probable I should feel more or less of the giddiness whilst we continued to use the caustic, which clearly appears to affect the stomach, and from thence the head ; he advised me to strengthen my stomach by some tincture or cordial, and recommended columbo as a great strengthener. I mentioned to him my hopes, that the attack on my head would not increase, so as to oblige me, after so much endurance, to suspend the use of the caustic before we had accomplished our object. After we were so well advanced, to be reduced to such necessity, he thought, would be most unfortunate. This conversation ended by my naming Tuesday for his next operation. If when the caustic is applied, I do not always write down my sensations, it is not because the operation is not attended with considerable pain, but, because it is so much diminished, that I can bear it without a murmur. In the course of the last twenty-four hours, I was many times subject to dizziness, but which subsided shortly after.

August 6.—Slept well; pulse rather low



and sluggish; began to take tincture of columbo to strengthen my stomach. Body open; long intervals betwixt the times of making water, so long, that it is scarce an inconvenience, and certainly not a complaint. The fistula all but healed, no urine having passed through it for a considerable time; my stomach affected; and when I am attacked by dizziness, I feel a desire to vomit, but this ceases when the dizziness goes off. I live extremely temperately both in eating and drinking; not particularly so enjoined by the faculty, but from my usual habit, and no inclination to depart from it; I seldom drink more than half a pint of wine, often not half that quantity; I take a little weak punch, which I find agrees better with my stomach. I should hope that before the end of this month, I may be so far recovered as to be allowed to go into the country; but it is a question I have never put in any shape to Mr. Home, because I know he could not give me more than a probable opinion.

August 7.—The usual application made;

it was attended with more pain than I have experienced for some time, both with the bougie and caustic ; by the appearances of the first, Mr. Home thinks he has certainly destroyed more of the stricture by the last application. He was pleased to hear that yesterday I was totally free from any dizziness ; talks of another dose of physic at the end of the week. I mentioned to him that I had never shewn any impatience, nor asked any question, when I might hope to be released from further operation, but that now things wore so very promising an aspect, I could not help expressing my hopes that by the end of the month I might be discharged from all further application of the caustic. He said that he was desirous to go for a day or two to Southampton, but that he wished to defer it until his attendance upon me was no longer necessary, and that by the end of the month he expects my cure will be accomplished. These are happy tidings. As I do not write this journal merely for my own personal satisfaction,

but for the advice and information of any friend, (and some there now are, to whom it may be useful,) who may wish to know every circumstance attending my case, in the course of using the caustic, I cannot but pointedly remark, that I have not waited for the moment when the bougie shall perforate and enter the bladder, for relief of my sufferings. On the contrary, in a very few days after we commenced the practice, many of my complaints gradually decreased, and many of the most unpleasant, and indeed some painful sensations, lessened as we advanced; so that from a state of almost perpetual torment, I acquired a degree of tranquillity, the comfort of which I cannot express; and this has happened with much less impediment to the course of proceeding, than either myself or surgeon expected, and these are circumstances material to be known to one who may be in doubt, whether he shall adopt this mode of cure. These observations and details, being written on the moment, are more to be



depended on than any general description. I mentioned to Mr. Home my own sanguine hopes, that when we had passed this stricture, we should not afterwards have the mortification to find another. I will assure you confidently, there is nothing of that sort to be apprehended, was his reply, and assigned his reasons for the opinion, which I understood so well as to be satisfied with them. In the evening some little dizziness; came home early and went to bed, but had the worst night's rest for some time past, not owing to pain, but restlessness.

August 8.—This day walked a mile before dinner, and after it, as much; tired, but not fatigued; free from any giddiness the whole day. Body open, pulse rather low; eat my meal with more appetite, and had a better digestion than for some weeks past. The stream of urine considerably increased; move with infinite more ease to myself; this so observable to others, that a friend told me, that she expected to walk a minuet with me before another month.

August 9.—Slept well, body open, pulse temperate; Mr. Home performed his application, which answered his best expectations. The shoulder of the bougie was very much diminished, by which he concludes the stricture is also diminished in the same proportion; he considers his probe bougie, from being soft and pliant, to be a model which receives a just impression of the stricture. In the early part of our process, I have mentioned that it was the criterion to form his judgment by, and in very obstinate and difficult cases like mine, without such an assistance he should operate in the dark; but with this aid, he can guide his caustic to that part which ought to be reduced. The caustic was fully applied to-day, and kept longer in than usual. The pain I felt was that which proceeds from burning, not from distension. I had suffered so much in the last application, that I began to have my apprehensions renewed; but the whole of this day's process was not in any comparison so severe as the

last. In the evening walked a mile, but found the effect of the caustic very sensibly, for I did not move without uneasy sensation from the operation of the morning; had a slight return of the giddiness in the evening.

August 10.—Do not sleep so well as usual, which I impute to keeping more early hours, not from choice, but in some degree from necessity. Body open, pulse rather low; I have not yet recovered the effect of yesterday's caustic, and am almost disposed to procrastinate the next operation, which is intended on the morrow.

August 11.—I complained to Mr. Home that I was not quite recovered from the pain of the last application, and that I had thoughts of sending to him for a day's delay, but that wishing to proceed, I was ready. He enquired of the dizziness, and finding a favourable report on that point, and that I had taken in the morning the purging dose which he had recommended, he had no hesitation to continue his process.



I desired he would make it more gentle than the last; in some degree he attended to my wishes. After it was over he expressed himself satisfied, well satisfied, but it did not appear to my feelings to have pressed much against the stricture. The medicine operated powerfully. This physic is solely given to cleanse the stomach, as the best means of preventing the effect of the caustic upon the head, and I have certainly felt it less, since we adopted these frequent purges. My pulse is very low, and I begin to sigh after relaxation, from this alternate diurnal process. I take some merit to myself, that I do not make the essay, whether a smaller bougie would not pass into the bladder; I think it would, but I do not think any experiment of my own would be doing justice to the practice of Mr. Home.

August 12.—Slept moderately; very little discharge now from the urethra, even on the day the caustic is introduced, and less the day after. The physic of yesterday continued to operate till this morning; I

am rather low in spirits, my pulse remarkably so, but I have no bodily complaint, and scarce any local pain. I read many hours in the course of the day and night. The weather having been so bad, I have not been able to take air or exercise. Very much troubled with wind in my stomach, but that is no new complaint; I am seldom without it, for which I take the infusion of columbo root. I am given to understand that I must not flatter myself with being so near my recovery, as the cure cannot be effected whilst the hardness in the perinæum remains, and as yet it has abated but little.

August 13.—Mr. Home renewed his application, and it was severely felt, for after it was withdrawn, I felt for the first time a pain along the urethra, particularly from the stricture to the bladder. I stated this to Mr. Home, he said he was glad of it, and gave a reason, which I own was not quite comprehensible to me. The severity of this pain soon moderated, yet it was very

sensibly felt the whole day. Slept but very indifferently, so contrary to my general habit; my pulse continues low, and I feel myself oppressed more than usual.

August 14.—The pain in the urethra beyond the stricture still continues; for the last two days I have had no attack of dizziness, which is a favourable circumstance; for had the operation continued to affect my head, it must have been suspended for some time. Yesterday evening, and in the night I had a slow fever; this morning I am more calm. If I press the perinæum beyond the stricture and before the bladder, I feel considerable pain, as if there was something sore in that quarter. Mr. Home said he had made an exceedingly good application, and that we might be on the verge of passing the stricture. Twenty-two applications have been made to it, but there have been times, when perhaps the caustic has not reached the stricture; it is an operation in the dark, and the most skilful operator may sometimes be mistaken. I



have hitherto suffered with exemplary patience, and should begin to tire of finding no end to my sufferings, if I did not look back to what a condition I *was* in, and the comparatively comfortable state I *now* enjoy ; this retrospect determines me to persevere as long as I am able, but I must be much more at ease than I feel at present, to induce me to suffer the application to-morrow.

August 15.—I was not much more at ease than yesterday, yet I submitted, though reluctantly, to the application. That of the bougie was very severe indeed, but that of the caustic was actual torture. I desired Mr. Home to withdraw it instantly, which he did. I cannot describe the pain I felt ; it was not extreme and of short duration, but continued some minutes after the caustic was withdrawn, and affected the whole urethra up to the bladder ; it was of the same nature as that which I described after the application of the caustic last Monday, and totally different from any other prior

feeling. Mr. Home said, the caustic this day had gone up to the stricture, (which I did not suppose, till he said it,) but that seeing how much I suffered, he should not make any application for some days, and mentioned Saturday next for the introduction of the probe bougie only. That must depend entirely upon my actual situation when Saturday shall arrive.

August 16.—Slept rather better than I expected, because I have never ceased to experience very great pain from the last application of the caustic; if I cough or sneeze, the very anus is affected, and I cannot turn in my bed without much inconvenience. Mr. Home desired me to notice if I had much pain in making water; I have been more frequent of late, but without any sort of difficulty, and when I have much water to make, the stream is as large, as at any one time since I commenced this system. Body is open, the pulse is low; there is something presses like a swelling upon the surface of the

perinæum, but no redness, nor any other indication of inflammation; when touched to-day by Mr. Home, I felt it sore, but the part affected lies so deep, as to shew but little externally; I am ordered to foment with warm flannels. I know not from whence these unfavourable symptoms proceed; they have very much damped my hopes and expectations. I am convinced that I shall not admit the probe bougie on Saturday; for after having by rest been relieved from the pain which now torments me, and if upon the application of the probe bougie, I should again suffer to the same extent, I very much query whether I could summons fortitude sufficient again to have recourse to the use of the caustic. Before these new and very uncomfortable symptoms appeared, I was so much at my ease, that I only continued the caustic as a means of obtaining a perfect cure; hereafter I may feel more inclined to bear the little ills I do suffer, than to continue a practice, the torment of which I can scarce sustain.



August 17.—The pain continues, but is not so violent as yesterday ; pass my urine with an interval of two hours, but without any difficulty, or even heat ; no bad smell, nor sediment ; sleep but ill, pulse low, body open.

August 18.—When my surgeons attended to-day, gave them an account of my feelings ; all idea of resuming the application was out of the question. To-day, I find myself much relieved from great sense of pain ; Mr. Home talked of Monday ; that must depend on my feelings on Monday ; about three hours interval in making water during the last night. I plainly told Mr. Home that I had suffered so much from the two last applications, that it would be politic to let me have full time to collect all my fortitude to sustain another attempt ; for should that be attended with the same circumstances, I very much doubted, whether I should be able to prevail on myself to make another trial. He said that point was no longer dubious, for if I should feel

excess of pain with the probe bougie, he had no thoughts of trying the caustic whilst the urethra was in a state so irritated. As to the cause, he thought we were on the verge of the cure of the stricture, which generally shews itself in some mode or another, sometimes by fever and ague, at other times by the stomach, and giddiness in the head. I could not avoid saying that was it left to my choice, I should have preferred the ague and fever to my late suffering. He considers my late complaint as merely local, and so far he is justified, as the pain is now subsiding; but in answer to my remark, he said, and I believe with good judgment, that he had much rather I should have experienced the pain I suffered, than the ague and fever, because he would rather that my nerves should be affected than my constitution.

August 19.—Found myself so much better to-day, that I ventured to dine abroad, and suffered no inconvenience; the pain is considerably abated, yet not subsided, but the

urine does not pass so freely; and when I strain to make water, I feel it painful even to the anus; but I have not the same sensations when I sneeze or cough, as I had two days since; but I do not yet rest well.

August 20.—My surgeons attended to-day; from the detail I gave of my feelings, Mr. Home proposed I should take a dose of physic to-morrow, and on Wednesday to introduce the probe bougie; to this I consented. He expressed some surprise that since the last application of the caustic, and the symptoms which followed it, I have not felt any pain in making water, which he expected would be the case. It is not because the body is bound, that they prescribe physic, for I have regularly a motion every day, sometimes two and rather lax; but they conceive it absolutely necessary that the body should be kept perfectly open.

August 21.—Took physic which gave me six motions; I am better; most of the



disagreeable<sup>o</sup> sensations have now subsided, and I am very near that state I was in before the last operation, but with this experience, that the pain, agonizing as it was, produced no other effects than the local complaint.

August 22.—I had made up my mind to proceed with the probe bougie; and upon the effects it produced, would depend my future resolution. Mr. Home introduced it, and desired me to describe my sensations as he proceeded. In this operation he was very circumspect, and gentle as I could wish. I felt but little pain, and mentioned the degree as he advanced. It was not withdrawn until he thought proper so to do; he went to  $7\frac{1}{4}$  inches. When he withdrew it, he was satisfied with the appearance, and was convinced that he had made progress into the stricture. He said he did not expect to find the parts so quiet; and added, certainly with truth, that however acute had been my sensations after the last operation of the caustic, it was clearly

proved, that local pain was the sole effect, since the parts had now acquired their former tranquillity, to which I fully assented. A week had elapsed since the last operation ; Mr. Home proposed, as I had experienced no great pain to-day, to proceed again to-morrow, with the probe bougie ; to this also I assented. I feel myself comfortable, and my mind very much relieved from apprehension. It was doubtful whether I should be able to proceed in our process ; and although we have not yet again attempted the use the caustic, yet I am now resolved to resume that application, whenever my surgeon calls upon me so to do, and the issue of that trial must determine whether I can continue to use it ; but I will if possible endure it, and go on if there is a prospect of ultimate success. Some little blood issued from the urethra after the bougie was withdrawn. N B. The probe bougie less than that formerly used.

August 23.—This day Mr. Home applied

the same sized probe bougie, though of a harder substance than yesterday; he penetrated into the stricture, but the bougie being harder, did not receive so good an impression; I believe he thought it probable, that with this harder substance he might penetrate to the bladder. His operation did not cause much pain at the time, nor any unpleasant consequences. I can now again sometimes contain my water 4 5 and 6 hours: he wished to try the same bougie again to-morrow.

August 24.—The same bougie was passed, (it is considerably less than that which Mr. Home commonly used) and gave me more pain than yesterday, especially when it entered the stricture; but as he was desirous of keeping it there some time, I told him to retain it as long as I could possibly bear it; in about two minutes he withdrew it; (double the time commonly used.) There remained a perfect impression at the end of the bougie of the actual state of the stricture; after duly examining it, he



said it would be necessary again to apply the caustic, and he thought the *parts* would bear it without being so much affected as at our last application. Unwilling to yield up my hopes of radical cure, I consented on Sunday to renew the operation of the caustic, at the same time declaring, that if it produced the same effect as last week, I should afterwards decline all thoughts of continuing that process. The pain I experienced by the introduction of the bougie subsided very soon after it was withdrawn, and it did not extend beyond the stricture. On Sunday we have determined on the application of the caustic.

August 25.—To-day, for the first time for many months, I ventured into mixed society, and continued from noon till six in the evening, without any great inconvenience. In the course of these twenty-four hours, I had no inclination to urine for  $8\frac{1}{2}$  hours, a space that seemed to me almost incredible. I slept remarkably well.

August 26.—Mr. Home first applied the

probe bougie of the large size; when I complained of pain he desisted, although he had not reached the stricture, but he had distended sufficiently to permit the caustic bougie to reach it. This application was not attended with any of those very disagreeable symptoms, which I experienced eleven days since. I bore the operation of this day without a murmur, and if no bad consequences result, I shall continue it on Tuesday. Encouraged by success, perhaps Mr. Home had been rather hardy, both with the probe and caustic, and partly he said as much; and I observe from his practice since, that he is much more cautious, and of course more gentle. I rejoice that this day's trial is over, as I was apprehensive, after all that I had suffered, and in some degree in view of the haven, that I should be obliged to abandon the enterprise; walked two miles this evening.

August 27.—Found no ill consequence; slept well; body open; pulse temperate. Mr. Home called to hear the effect of

yesterday's operation. Wednesday we resume it ; I observe that since we suspended the use of the caustic, I have felt my general health better ; very little of the dizziness ; my stomach not so much disordered, and more like the feeling of a man in health and spirits.

August 28.—Body open ; am comfortable, and without any very disagreeable feelings.

August 29.—This morning I had a very considerable dizziness which affected my head, more or less for half an hour ; when Mr. Home attended, I mentioned this circumstance, but said I did not consider it of any consequence, and that I was ready to submit to the application ; but he declined using the caustic, and proposed my taking physic to-morrow, deferring the operation till Friday.

August 30.—Took the physic ; had six motions ; my stomach much indisposed with wind ; felt myself easy towards the evening, and slept tolerably well.



August 31.—Having had no return of dizziness, Mr. Home applied the caustic; had a very good application; he said the appearance of the probe bougie was the most satisfactory of any he had seen. The pain was great, but not extreme, such only as I could well sustain. I told Mr. Home that I now seriously began to think of postponing the use of the caustic for some time, as I made no doubt, but by a moderate use of the bougie, I could so manage as to preserve the ground we had acquired; that I certainly found myself very much relieved by the use of the caustic, for many of the evils I did suffer before now existed no longer; but that three months confinement, and the advanced season of the year, made me extremely desirous of giving both my body and mind some relief, for I could not divest myself of the feelings resulting from the knowledge, that on every other day I was to undergo this operation; moreover, that I should be ill fitted to sustain the winter, if I did not previously enjoy some quiet,

pure air, and gentle exercise; that as to passing a bougie into the bladder, however much it was desirable, I saw no immediate prospect, and therefore all things considered, I did not conceive it prudent to postpone my resolution much longer. He regretted much, that we had lately met with delay very unexpected, and therefore had himself very maturely weighed my case, and thought as the season was so far advanced, it would be necessary for me to have some relaxation. If in two or three more trials, the bougie should enter the bladder, it would be a most desirable event. He could not pretend to say positively, that it would happen, but from all appearances, he saw no cause to believe the contrary; and if it should so happen, it would take such a load off my mind, that of not being obliged to recur to the same system, as would contribute very much to the establishment of my general health. We therefore determined to submit to three more applications, if so many became necessary; and this

being resolved, it must be almost a positive conviction of success, that can induce me to exceed this number. On those days which are free from *application*, I am tolerably well, and can go up and down stairs with some degree of my former agility.

September 1.—No ill effects result from the last application; in general, I feel myself almost comfortable, and free from pain.

September 2.—This day Mr. Home introduced a probe bougie, very much less than that which he usually employed; this bent in the operation, and did not reach the stricture. He introduced the caustic of the old size, but that did not readily go up neither; so he withdrew it, and as I experienced no pain, he proposed trying it again to-morrow. He enquired of me whether I had experienced any irritation on the preceding day; not the least. The day being excessively hot he supposed might occasion the bougies to bend in the urethra. No pain from this attempt ensued, but in the



evening, twice I experienced much dizziness, and my head was considerably affected each time for two or three minutes; these attacks determined me not to have the application to-morrow, or indeed any more for the present.

September 3.—When I mentioned what had happened to Mr. Home, he said it was his intention only to try a common bougie much less even than that of yesterday, to see whether he could hit off the passage into the bladder; for as the stream of water is at times very good, it would be pleasant if we could get even a smaller sized bougie into the bladder before I left London. He tried, but it went up only to the stricture; he did not press it; it gave me no pain, but some few drops of blood followed it. He approved of my going into the country for change of air, the season now so far advanced as to admit of no delay. He did not apprehend any bad consequence would result from suspending the use of the caustic; an acquaintance of mine, (L. K.)

was obliged to suspend the operation for some months; he then resumed it, and the cure was accomplished. He recommended to me to pass every three or four days, a bougie of the size he made use of to-day, but not to keep it any time in the urethra; and said he would commit to writing the few rules he would have me observe, and what I should do under peculiar circumstances, if such actually happened. I shewed him my urine, which had the appearance of being made by a man in most perfect health; this was satisfaction to him, as it proved that my bladder had in a great degree recovered *its tone*. He thought that after I had recovered from the effect of the caustic, I should feel myself still more comfortable.

In a day or two I went into the country about thirty miles; bore my journey without inconvenience. Whilst there, used frequently to take the air in a low park carriage, and after the first week mounted a poney, and rode three or four miles a foot pace;

but a very few days after my arrival, my urine began to have a faint disagreeable smell, which I thought a bad symptom, knowing well, that with me it is always the forerunner of evil. Every day this encreased, and it was accompanied with a great sediment of mucus, and frequent irritation to make water, which I could do without any difficulty; but after passing a month in the country, the desire to urine was so frequent that I thought it necessary to return to London to consult Mr. Home. He enquired if I came to remain in town; I told him my intentions were to remain another month in the country, if I could overcome this frequent inclination to make water, and wished him to try whether we had lost any ground, since the operations were suspended. This he declined, thinking it could do no good, and might increase the present irritation; thus we parted. I had intended to leave town very shortly, but finding myself daily becoming more incapable of mingling in society, I



sent for Mr. Home, being resolved to give over all thoughts of the country, and determined to resume the introduction of the caustic, and to continue it, if possible, till we had got a passage into the bladder. He introduced it, and was well pleased to find that without the least impediment, it went up to the old barrier at 7 inches. The introduction gave me much pain for a short time, but it soon subsided. This was on Friday the 12th of October.

October 14.—This morning Mr. Home introduced the probe bougie, preparatory for the caustic. He gave me infinite pain; he was insensible to my entreaties, or to my scream, for such was the acuteness of the pain, I could not command myself. After a minute or something more, he withdrew the bougie, and wished me joy of having passed into the bladder. Indeed this was a joyful moment, thus having accomplished, and at a time so very unexpected, that which I had been attempting for three

years; and conscious that unless we could accomplish our point, it was my lot to drag on a miserable existence. Very little blood followed from this operation, but he recommended me to keep very quiet. He had always said, that whenever he perforated this stricture, most likely an ague and fever would follow it; so it happened. About eleven I was seized with a cold fit, went instantly to my bed, and in less than half an hour, the hot fit followed, which lasted five or six hours, but was not violent; some reaching, and a severe head-ache. During the course of the night was constantly making water, I suppose not less than two quarts; the smell not so bad, but much mucus. The having passed a bougie into the bladder so occupied all my thoughts, that I considered the ague and fever not as an evil, but as the necessary consequence of our successful operation.

October 16.—Mr. Home again passed a bougie into the bladder; I did not feel the

twentieth part of the pain of the preceding operation. The ease with which it entered exceeded his expectations; for it frequently happens, that such a severe operation as I had lately sustained creates spasm, or some other impediment, to the passing the bougie into the bladder upon the next trial, after the point had been first accomplished; indeed in any circumstances of difficulty he would not have ventured to persist.

I feel no pain whatsoever, but have still a frequent desire to urine, and much mucus passes. I observe with pleasure, that when I have been able to retain my urine so long, that three or four large spoonfuls are in the bladder, it is discharged with such a stream, as I have been unaccustomed to see for many years, and without the least stoppage, such as I was wont to have before the bougie had entered the bladder. To remedy this irritation, I have taken some purging physic, hitherto without much effect, although I have been as careful to



avoid catching cold, as a delicate lady after the birth of her first child, not having been out of my chamber for the last ten days; yet had I been as negligent as the most of our hardy fox hunters, I could not have fared worse, *tant je suis enrhumée*; but I care not; the bougie has made good its passage into the bladder; there is my great comfort.

October 18.—Mr. Home again passed a bougie into the bladder, with more ease than before; frequent desire to make water; much mucus; the irritation principally in the day time; whilst in bed from night to morn, urine five, six, or seven times.

October 21.—The cold and irritation continue, and the other symptoms also; this day somewhat easier; passed a bougie myself into the bladder, without any interruption. Mr. Home supposes the irritation in the bladder will subside in some few days, but at present the complaint is very troublesome, though unaccompanied with

pain, but very inconvenient. In all other respects I feel myself quite well, and gradually gaining strength.

November 1.—Bid adieu to my surgeons. The frequent calls to make water still continue, but I always pass the urine without difficulty; much mucus. In the night make water four, five, or six times; sleep remarkably well; for although awakened by the inclination to urine, it flows readily, and I am again asleep in a few minutes. I pass the bougie myself every third or fourth day. I have a tolerably good appetite, and might be said to enjoy perfect health, but for this great inconveniency; for in the day time it is much more troublesome than in the night.

October , 1799.—It is now almost a year, since a bougie was first passed into the bladder. I have occasionally continued the practice, the intervals never exceeding ten days, and not keeping it in the urethra more than one or two minutes. The frequency of making water has encreased, and

is become uncomfortable; much mucus passes from me, mixed with blood. I have consulted my surgeon and several physicians, but whatever rules or medicines they have prescribed have done me no service. I have lately used warm sea baths for six weeks, but find them equally inefficacious. It is a very great inconvenience, particularly as I cannot mix much in society, or go to any public place whatsoever. But when I have stated this, I have stated all my ailments. Now for the bright side of the picture; my general health is so much improved, that I am congratulated by all my acquaintance upon my appearance. I can ride ten miles with much satisfaction, and whenever I have a call to make water, it passes without difficulty. I feel no pain of any kind; in short, could I surmount the frequency of making water, there would be very few men of my age, (sixty-five) more robust. This amazing change from a life of pain and misery, I attribute entirely to the operation of the caustic. This copy of the



journal, which I kept during the operation, I give to Mr. Home, and hope he will be pleased to consider it as an acknowledgment of his professional abilities, and of my grateful remembrance of their exertion.\*

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In this patient the irritability of the bladder never went off, but gradually increased, and in the year 1803, his sufferings were much aggravated by passing small portions of coagulable lymph incrustated with calcareous-like matter. These at first were small, but in the month of May became more numerous and larger in size, requiring great effort and straining to force them out of the bladder; but as soon as that was effected, they readily passed through the urethra. Worn out by his sufferings, on the 2d of July he died.

On inspecting the body after death, the following appearances were observed.

\* This case may be considered prolix, but the author was allowed to publish it, on condition that no material alteration was made.

The urethra had one uniformly smooth surface throughout its whole extent; there was no appearance of contraction in any part of the canal; but upon a minute examination the spots, where the stricture at 5 inches, and that at 7 inches had been, could be distinguished by the membrane being thin, and more compact at these parts than in any other. The prostate gland was enlarged, and several different abscesses had formed in its substance; these had opened into the cavity of the bladder, and the inflammation they produced had extended itself over the internal membrane, which was crusted over with coagulable lymph. This adventitious substance projected every where by very irregular processes into the cavity, and portions of it had during life been occasionally separated and voided with the urine.

The left kidney was inflamed throughout its substance, and in some parts matter had been formed.

In this case, the neck of the bladder had

suffered too much during the long continuance of the stricture, to recover itself after the impediment to the urine had been removed ; to the gradual progress of disease in that part are to be attributed the patient's sufferings, and the inflammation being extended to the cavity of the bladder was the cause of his death. During the progress of the cure of the stricture, the symptoms of disease in the prostate gland and bladder were much relieved, as has been already stated to happen in most cases of disease of that viscus, from whatever cause they may proceed ; but as soon as the canal of the urethra was rendered free, the symptoms of irritation in the bladder returned, and became more violent than before.



## SECTION II.

ULCERATION OF THE INTERNAL MEMBRANE  
OF THE BLADDER, ATTENDED WITH HÆ-  
MORRHAGE.

THE internal membrane of the bladder is so rarely met with in a state of ulcer, from stricture, that when it does happen it cannot be considered as a direct effect of that disease, but rather as a more remote consequence, arising out of the injury the bladder receives from having been for a great many years kept in a disturbed state.

Ulcers are met with in the bladder occasionally, without any disease in the neighbouring parts, in the same way as they sometimes occur in the stomach; but I have only known the following instances where such ulcer has been combined with stricture.

A gentleman between fifty and sixty years of age had a stricture for thirty years, which had been attended with violent attacks of strangury, and frequent abscess in perinæo, so that there were several sinuses not only in the perinæum, but near the anus, and over the pubis, which kept him in a state of great uneasiness. He was many years under the care of the late Mr. Hunter, and partly by means of the caustic, as it was then used, and the common bougie, he got so far the management of his stricture as to keep off attacks of strangury, although the stream of urine was still small. Having arrived at this state, his health improved, and comparing his situation with what it had been for so many years, he was perfectly satisfied, and unwilling to take any steps towards being better.

In this state he had the imprudence to dine upon turtle, of which he eat heartily, and to drink strong punch; in the night following a strangury took place, and passing

a bougie brought away no urine. The pain in the region of the bladder was very severe, and I was called to his assistance. Passing the catheter brought away nothing but blood; it was therefore presumed that it did not reach the bladder; his pain and uneasiness were attended by fever, and at times delirium. In this state I punctured the bladder through the rectum; two ounces of water only came away through the canula, but this afforded no relief, and next day he died.

Upon examining the parts after death, the cavity of the bladder was found distended with a large coagulum formed from a mixture of blood and urine. In searching for the source of the bleeding, a small ulcer was discovered on the posterior surface,  $\frac{1}{4}$  of an inch square, which had destroyed the internal membrane only; and in this part an artery had given way, from which the blood had issued into the cavity of the bladder, bringing on suppression of urine, and all the other symptoms which had occurred.





## SECTION III.

COMMUNICATION OF THE BLADDER WITH  
THE RECTUM.

A COMMUNICATION between the bladder and rectum, by an opening directly from the one to the other, is unfortunately a complaint sometimes met with; but it more frequently occurs from an ulcer taking place in the intestine, and making its way into the bladder, than from one in the bladder getting through into the rectum. That such a circumstance may happen is evident from the case stated in the last section; for if no hæmorrhage had taken place, the natural progress of the ulcer would have produced such a communication.

The case of a sailor, in Mr. Hunter's work on the venereal disease, is of this kind, and most probably arose from stricture in the urethra. For although the nature of the case was not sufficiently enquired into, the account mentions that such a communication

was brought on by the venereal disease; and when he got rid of the disease it healed up; but on his contracting it again, the urine passed by the rectum, and continued to do so for many years. The disease alluded to must have been gonorrhœa. One very distinctly marked case of this kind has come within my own observation.

A gentleman with a spasmodic stricture, who was exceedingly irritable, put himself under my care. Passing a common bougie to examine the state of the urethra brought on a fever and ague, and great local irritation, in consequence of which he was confined to the house for several days; but on using a bougie a good deal smaller, with a view of palliating the symptoms, it went on into the bladder and gave him great relief, particularly from a symptom which he had not thought of sufficient consequence to notice particularly, which was part of the urine coming by the rectum. I told him that I believed there must be some mistake, as I did not conceive the

urine passed that way, and it was probably only some transparent mucus, which the glands of the rectum secreted when in a state of irritation. He said he had no doubt of its being urine, and I was also convinced it was, after having seen it dried upon a cloth, in which state it left no stiffening, which the mucus of the rectum always does.

By going on with the use of the common bougie, these symptoms ceased entirely.

#### SECTION IV.

##### RUPTURE OF THE BLADDER, OR ITS COMMUNICATION WITH THE CAVITY OF THE ABDOMEN.

THIS disease, as well as those of the two former sections, must be considered as an ulcer in the bladder, each of them producing effects according to the parts destroyed by the ulcer. As these effects of ulceration are very important, and their symptoms



widely different, it appeared best to treat of them separately.

A rupture of the bladder is often talked of, and in the way in which it is supposed to take place, I believe rarely, if ever, happens. Indeed the mode in which it took place in the following case was a circumstance I was totally unprepared for, not having met with any thing in my former experience, which led to the probability of such an event.

Thomas Hall, a labourer, 44 years of age, was admitted into St. George's hospital, October 19th, 1802.

Twenty-three years ago he had a severe gonorrhœa, soon after which he remarked that at times his stream of urine was less than usual, and that he was longer in emptying his bladder than formerly; he likewise occasionally felt a severe pain along the urethra, after voiding his urine. Although these symptoms never entirely left him, he did not for a number of years observe them to increase; but about six

or seven years ago, they became much more troublesome, and in addition to them there was great frequency of making water, and occasionally he was unable to pass any for several hours. From that time these symptoms gradually increased. Three years ago he had a total suppression of urine, which lasted more than two days, notwithstanding all the common means were tried. At the time of his being received into the hospital, he had a constant inclination to make water, which continued to run from him insensibly, and when he attempted to void it, he could only force it away by drops.

On the 20th I passed a small cat-gut bougie down to a stricture at 7 inches from the external orifice of the urethra.

On the 21st the armed bougie was applied to this stricture, which gave him little pain, and no particular symptoms followed.

On the 23d the bougie could not be passed farther down than 5 inches, and the application of the armed bougie to that

part produced a great degree of pain ; however he passed the remainder of the day as usual, his urine dropping constantly from him.

On the 24th his urine ceased to come away spontaneously, and he had a complete suppression.

On the 25th in the evening, he felt a rush, as he termed it, from the upper part of the bladder, which gave him the idea that his bladder had given way. This I told him was so improbable a circumstance, that I could not give credit to it. He complained of pain in the region of the bladder, which was so violent in the night, as to deprive him of sleep ; the inclination to make water had ceased, although there was a considerable tumour in the region of the bladder. Fomentations and the warm bath were had recourse to ; he also took forty drops of tinctura opii by the mouth, and fifty were thrown up by clyster. In four hours he took fifty drops more. In the evening he had passed no urine ; the bladder appeared



much distended, but only painful when touched, and he had no inclination to make water. He slept almost constantly; his pulse was small and extremely frequent, his tongue dry. The smallest sized bougie was introduced, but did not appear to enter the stricture, nor did it bring on any inclination to make water, although left in the urethra for upwards of a quarter of an hour.

October 26.—He slept the whole night, but neither passed any water nor had the inclination to do it; had no pain when still, but motion of the body or pressure on the abdomen, which was much distended, occasioned great pain.

On the 26th the suppression continued, and at twelve o'clock at noon I examined by the rectum. The bladder was distinctly felt, but was not so prominent as is usual in such cases. It was however judged expedient to puncture it through the rectum ;\*

\* The mode in which the operation was performed, will be particularly stated in the 13th chapter.

only three ounces of urine were evacuated; he felt no relief from the operation, and the tumour of the belly still continued. I thought it prudent under these circumstances to withdraw the canula. In the evening no water had passed, either by the rectum or the urethra. He complained of pain all over the abdomen, which was considerably swelled and hard; his pulse was very small, and 140 in a minute; tongue dry and brown. From these symptoms I began to believe, that the feel he had experienced of something giving way within him on the 24th must have been from the rupture of the bladder.

On the 27th he passed no water; complained of great thirst, but seldom asked for drink. The abdomen became very much distended.

On the 28th his extremities became cold; the pulse was hardly to be felt at the wrist; and at ten o'clock in the evening he died.

## DISSECTION.

On opening the cavity of the abdomen, a large quantity of urine was found to be contained in it. The intestines were inflamed, and covered by a layer of coagulable lymph, which glued them together. On looking for the opening by which the urine had got into the cavity of the abdomen, no direct communication was met with, as the bladder had given way at the anterior part of its fundus, immediately above the pubis, and the urine had passed along in the cellular membrane, between the peritonæum and abdominal muscles, as high up as the navel. At this part the peritonæum gave way, and the urine escaped into the general cavity of the abdomen. The opening through the internal membrane of the bladder was circular, and not larger than a common sized goose quill ; but the opening through the muscular coat was about one inch in diameter. The cellular membrane, where-



ever the urine had been in contact with it, was in a sloughy state. On examining the urethra a stricture was found at the membranous part, not thicker in its substance than a sheet of common writing paper, but so much contracted, as hardly to admit the smallest sized probe to pass through it; the other parts of the canal were in a healthy state. The bladder was much thickened in its coats, and the internal membrane thrown into folds, which formed ridges on its internal surface. The opening made into the bladder by the trocar was plugged up by a coagulum of blood.

## CHAPTER V.

## STRICTURES BROUGHT ON BY ONANISM.

STRICTURES vary from one another, not only according to the peculiarities of the patient's constitution, and the length of the continuance of the disease, but also the causes which produce them. This is more especially the case with strictures which arise from onanism, accidental violence upon the perinæum, or inflammation of the glands of the urethra. I have therefore considered them apart from strictures arising from other causes, and have given to each a separate chapter, that their peculiarities may be more readily observed by the practitioner.

Onanism has been justly believed by all writers upon the subject to be productive of great injury to the constitution, and has been considered as the cause of impotence, seminal weakness, general debility, wasting

of the flesh, consumption, and death ; but in what way these consequences have arisen, no author, with whose works I am acquainted, has in any way explained. Mr. Hunter, to whom this branch of knowledge is so much indebted, has fallen into an error in treating too lightly the bad consequences arising from that practice, and states that the only disadvantage is the person having the power of too frequent repetition.\* My respect for Mr. Hunter's opinions had a strong influence upon my own, and induced me to consider the accounts, which have been laid before the public of the effects of this practice, as exceedingly exaggerated ; and the more so, as I did not see in what way they could be produced. But in this, as in most other subjects, the truth lies between the extremes, and my experience in the treatment of strictures has since enabled me to ascertain, that onanism is one of the causes of their formation.

\* Hunter on the Venereal Disease, p. 200.



Onanism is unfortunately a practice too often made use of before the parts have arrived at perfection, and although they are capable of being excited by the passions, have not acquired their full powers so as to fit them for the performance of their functions. This period is when the penis is capable of erection, but before the testicles have the power of secreting semen. At this time an occasional attempt to perform the complete act might be productive of benefit, and if it were only repeated at certain intervals might do no material mischief. But if it be frequently resorted to, and the parts are urged beyond their powers, the consequence must be a want of correspondence between the secretion of the semen, and the necessary actions in the urethra for its expulsion ; and such is the connection of parts, or sympathy between the testicles and urethra, that when once the chain of the regular series of actions is broken in upon, the parts become so much disturbed as to act independently, and their

actions interfere with one another. This happens in various ways in different constitutions, according to the peculiarities of each individual, and diseases of different kinds are produced. Those of the testicles do not come within the limits of the present inquiry. It may, however, be stated, that the secretion will at times be formed too soon, and the emission take place before the orgasm, or even before there has been a complete erection of the penis ; or it may be too slow, and be delayed till the erection shall have previously subsided.

The effect of the practice of onanism upon the urethra is throwing the muscular fibres of the lining of that canal into irregular action, and by doing so rendering them liable to spasms, so that when the orgasm takes place, more especially where it is produced before there is a perfect secretion of semen, the part of the urethra behind the bulb contracts with a violence attendant upon all unnatural spasmodic actions, and does not relax again when the

act is completed, but requires a greater effort to free it, than the urine is capable of making.

It is not, I trust, necessary to go into a more detailed explanation of this mode of producing strictures, after what has been stated in a former volume upon an Eastern custom of prolonging the venereal act, which has been attended by a similar effect.

The following cases will illustrate the symptoms which are characteristic of a stricture brought on by onanism.

#### CASES OF STRICTURE BROUGHT ON BY ONANISM.

##### CASE I.

A gentleman, who had early addicted himself to that pernicious vice, had the following symptoms brought on at the age of 21; frequent emissions in sleep, attended with great lassitude, depression of spirits,



and loss of general strength, head ache, inability to apply his mind to business, or exert himself for the whole of the day after such an effect had taken place. These occasionally happened for several nights in succession, and then left him for six or seven, but that was the longest interval. The effect of these attacks upon his reasoning faculties was such as to make him completely miserable. I explained to him that I thought it probable the symptoms of which he complained arose from a spasmodic stricture, immediately behind the bulb of the urethra, brought on by the practices to which he confessed he had been addicted; and upon passing a bougie, this proved to be really the case. As the urethra, although in an irritable state, admitted with some little difficulty a tolerably sized bougie to pass on into the bladder, I thought the use of the common bougie might be sufficient to relax that part of the urethra, and by being frequently applied might take off the preternatural sensibility. This however

upon trial was not found to answer, and little advantage was gained by its use. It was therefore found necessary to have recourse to the caustic, and six or seven applications of the armed bougie had the power to take off the sensibility of the urethra, as well as to remove the spasmodic contraction; and the tendency to emissions with all their enervating effects was very much relieved.

## CASE II.

A gentleman who had been addicted to the same practice at an early period of life, when arrived at the age of 25 consulted me on account of the following symptoms, which had distressed him for several years. He had frequently nocturnal emissions, attended with pain, lassitude, and depression; but the most grievous part of his complaint was a total inability to have connexion with women; for the moment his passions were excited, an effect very readily produced, emission took place, even before there was

a complete erection. These symptoms were so much under the influence of the mind, that this only happened when the mind interfered, for when there was no excitement of the passions his erections were perfect. Strengthening medicines, the cold bath, and opiates had been tried without material advantage. On examining the urethra by means of a bougie, a spasmodic stricture was met with at 7 inches from the external orifice; this was removed by four applications of the armed bougie. His nocturnal emissions were then rendered less frequent, nor was the emission at other times so hastily brought on; and by the use of the bougie every other day, simply passed into the bladder and withdrawn, the urethra lost much of its irritability, and the parts were brought a degree nearer their natural healthy state.

Many other cases of this kind have come under my notice; but there are obvious reasons for not dwelling upon them, further



than can answer a useful purpose ; and those which have been stated contain the most material symptoms belonging to the diseased state of these parts, which results from this practice. Whether the stricture taking place, is the cause of the other symptoms, or is only to be considered as one of the number, it may be very difficult to determine ; there is however little reason to doubt that till the stricture is removed, there is no chance of the others being cured.

The dreadful effects of this practice stated by Tissot, I hope are rarely, if ever, to be met with in this country. But from what I have seen of the greater irritability of the constitutions of the natives of France, and other southern climates, and the violent effects which I have known strictures to produce in such constitutions, in some instances bordering upon insanity, I have no doubt of every thing having occurred in practice which has been stated by that author.

Such effects are most probably entirely confined to patients of a very nervous irritable constitution, in which the natural powers of those organs are weak, and therefore more than in other persons liable to be influenced by the mind.

## CHAPTER VI.

STRICTURES BROUGHT ON BY ACCIDENTAL  
VIOLENCE ON THE PERINÆUM.

STRICTURES arising from this cause may exist for a long while without being known to the patient; for although the stream of urine is not of its usual size, after the parts about the neck of the bladder have recovered from the immediate violence of the accident, such an effect is naturally believed to arise from the bladder not having recovered its tone so as to throw out the urine with its usual force. There are instances in which the local injury has been so great, that the urine is voided with much straining and difficulty, in small quantities at a time, and this long after all the immediate symptoms of the accident have subsided, so as to leave no doubt of a stricture having taken place. Such cases however are of rare occurrence, and always, I believe,



terminate fatally. They certainly do not admit of relief from the use of the caustic, since the bladder must be unable to carry on its functions under the existing difficulties, for so long a period as will be required to enlarge the canal; and the inflammation produced by the caustic at each application, in parts so much injured, is liable to bring on a complete suppression, and thereby aggravate the symptoms it was meant to relieve. In cases of this description, I should propose, in the first instance, puncturing the bladder through the rectum, and after the urine had found a free passage that way, then taking up the use of the caustic to the stricture.

The symptoms most commonly met with in strictures arising from this cause are attacks of ague, attended with great irritation in the stomach, and as these were not known to be effects of any disease in the urethra, the medical practitioner, as well as the patient, has, in many instances, been misled, and supposed the complaint to be in

the stomach. The following cases were both mistaken in this way.

### CASE I.

An officer in the army met with an accident by falling from his horse with great violence upon the stump of a tree, which struck upon the perinæum; the immediate effects of the fall were pain, swelling in the part, and difficulty in making water; these symptoms gradually subsided, and he was considered as perfectly well, nor was he sensible that he did not make water as well as other people, not having any absolute difficulty in discharging it. He was from that time exceedingly liable to attacks of ague, which were supposed to be the consequence of having been in America. These increased upon him both in violence and frequency; the slightest exposure to cold brought them on, and his health became so much impaired as to make it necessary for him to quit his profession. He had been three or four years in this state, when

a medical friend, who had read the former volume of this work, suggested the idea of its being possible that those agues might be symptomatic of stricture, and begged of him to consult me upon that subject. In the investigation of his complaint, it was found that from the time of the accident his water had never flowed in a full stream, and that at the time of these attacks it was expelled with difficulty, and loaded with mucus. On passing a bougie a stricture was met with at 5 and  $\frac{1}{2}$  inches from the external orifice; this was only a secondary one, and there was another at 6 and  $\frac{1}{2}$  which had taken place in consequence of the accident. I told him the aguish attacks were only symptomatic of the strictures, and all that was necessary for their relief was the removal of the obstructions in the urethra; but that in the process necessary for this purpose we should most probably be impeded in our progress by very violent attacks of ague, and therefore it became necessary to use every precaution to guard against them.



He put himself under my care, and confined himself entire to the house. The first stricture readily gave way, not requiring more than two applications of the armed bougie; this allowed me to come to the obstruction produced by the accident. The second application to this part brought on a paroxysm of fever, but not very violent; the seventh application was attended with a severe attack, accompanied with delirium and head ache; nor did the paroxysm go completely off for 24 hours. He was now so much overset and weakened, that it was necessary to leave the parts to themselves for six days, and at the end of that time I attempted to pass a catheter, which went into the bladder; the surrounding parts were so much thickened that it was impossible to pass a bougie through them, but an instrument which was curved, and had firmness to admit of its being guided by the hand, went on with tolerable ease.

I told him that it was necessary for the catheter to be passed occasionally, to bring

that part of the urethra as much as possible into its natural state, and that this mode should be continued to prevent the recurrence of the symptoms.

### CASE II.

A gentleman by accident ran against a post, which was just high enough to strike with great force upon the perinæum. A violent inflammation came on, attended with strangury, and an attack of fever which was very severe; an abcess formed in perinæo; this broke, and the urine was in part evacuated by the fistulous orifice. These symptoms went off, and although his urine did not flow so readily as before, that circumstance was not attended to, as he had no difficulty in voiding it. From this time he became subject to attacks of fever upon every exposure to the effects of cold; his stomach was always in a disturbed state, and the feverish paroxysms were attributed to that cause. With a view to their removal different physicians were consulted;

various stomachic medicines were tried ; the Bath waters were persevered in for some months ; but the complaints continued to increase.

As during the feverish paroxysms the urine was loaded with mucus, and it required a considerable effort to void it, attended with frequency, and as no constitutional treatment had given the smallest relief, it became a question whether the original complaint, from which the fever and affections of the stomach arose, might not be situated in the urethra. Upon this ground I was consulted, and upon hearing the history of the case, did not hesitate to give my opinion that there was a stricture in the urethra, which was the cause of all the constitutional symptoms the patient laboured under. On examination of the urethra a stricture was met with at  $5\frac{1}{2}$  inches, which led me to believe there were three different obstructions. The use of the caustic was adopted for their removal, and in the progress of the cure we were frequently interrupted by paroxysms of fever



of a very violent kind, attended with partial suppressions. The progress of the cure was very tedious; and a number of circumstances unconnected with it made us from time to time intermit the use of the caustic for two or three months together. It was not till after a period of three years, that the passage was sufficiently open to admit a catheter to be introduced into the bladder, and even then a bougie could not be passed. By persevering in the use of the catheter for several weeks, the parts lost considerably of their hardness, and a bougie very much curved could occasionally be guided into the bladder; this however was too uncertain to be depended on, and I advised that the use of the catheter should be persevered in. At the end of the first year the patient lost all the symptoms in the stomach which had given him so much distress, and only suffered from those that were immediately the effects of the caustic; and when the catheter could be introduced these also left him.

In this case the stricture having been

produced by an external violence, all the surrounding parts had been injured, and were so much thickened, that the portion of the urethra which was included in them could never be restored to its natural healthy state; and unless the use of the catheter is persevered in, the patient will be liable to a recurrence of the symptoms.

## CHAPTER VII.

STRICTURES PRODUCED BY INFLAMMATION  
IN THE LACUNÆ OF THE ANTERIOR PART  
OF THE URETHRA.

HAVING asserted as a general rule, that strictures take place in a particular part of the urethra, which from its structure and functions is rendered peculiarly liable to this complaint, it may appear to be a contradiction to every thing that has been stated to assert, that this disease is also met with in the anterior part of the urethra, without being preceded by any contraction nearer the bladder. This however is a stricture of a very different nature; it is not properly a contraction of the internal membrane of the urethra, which I have defined a common stricture to be, but a thickening of the coats of the canal, brought on in consequence of inflammation having



taken place in the duct of the lacuna, and extended itself to the urethra where the duct opens. But as it produces a tightness in the urethra at that part, the removal of which requires the use of bougies, and too often the application of the caustic, it is better in a practical work like the present to rank the disease, however different in its nature, under the general head of strictures, than to give it a particular name.

This disease is not situated always in the same part of the urethra; but it is in general about three or four inches from the external orifice, and is readily distinguished from a common stricture, by a hard lump being distinctly felt through the common integuments, on the lower surface of the urethra, about the size of half a pea, projecting externally beyond the corpus spongiosum urethræ. This thickening of the coats of the urethra is a local disease, brought on by some accidental inflammation, which may undoubtedly arise from different causes, as the constitutions of different patients have

various peculiarities belonging to them; but in all instances which have come under my own observation, the complaint has been traced to the use of some irritating injection, the violent effects of which were so immediate as to render it impossible to make any mistake respecting the cause.

I have seen twenty cases at least of this kind of stricture, and as the treatment they require differs materially from that which has been recommended in the more usual cases of strictures, it becomes necessary to point out in what this difference consists, which can be better done by general observations, than by the statement of particular cases.

As this complaint consists of a thickening of the muscular coat of the urethra as well as the internal lining, and also of the cellular membrane by which that coat is surrounded, it will be readily understood that little can be effected by the use of the common bougie, the parts not being possessed of a power of yielding as in common

strictures. The use of the caustic must therefore necessarily be resorted to; but if the caustic is so large as to produce a slough extending into the surrounding parts in their present weakened state, an abscess may take place in the lacuna, which was the original seat of the complaint, and this breaking into the urethra, and admitting the urine into the abscess, may be productive of very serious consequences. One instance of this kind occurred to me in the year 1796, before I was sufficiently acquainted with the nature of the disease; an abscess formed, the urine escaped into it, and it was necessary to make an external opening just before the scrotum, by which the parts were relieved; and the patient afterwards got well.\*

Since that period, I have been induced to make use of a small bougie to enter or pass through the tightened part, and have immediately upon withdrawing it applied an armed bougie a size or two larger; the first

\* This case is stated in page 215 of the first volume.



bougie giving the direction of the orifice, and the small size of the caustic preventing the risk above mentioned. As soon as repeated applications of the caustic in this way have enabled me to make use of a bougie of a very moderate size, I have desisted intirely from the use of the caustic, and have advised my patient to be satisfied with the steady and unremitting use of a bougie of that size, passing it regularly every other morning into the bladder, and immediately withdrawing it, as the parts in their present circumstances do not bear a greater degree of violence. But if in the course of a year or two the present thickening should subside, a second attempt might be made with the caustic, still further to increase the size of the canal at this part.

In such cases the urethra is more liable to inflammation than in the more ordinary cases of stricture ; and at these times the thickening and external swelling are much increased, often requiring six or seven days before they subside, and a strangury or

complete stoppage of urine is by no means uncommon. This occasions the progress of the cure to be very tedious, and makes a great deal of judgment necessary on the part of the surgeon in the management of the armed bougie.

The mistake surgeons will naturally be liable to in such cases is the attempting too much; and having readily succeeded in opening the canal to a certain extent, they will be led to push on and increase the aperture. In this they will not only be encouraged by the patient, but, will even be importuned to do it; and their not doing it will by some be considered as not having done their duty. This makes it more necessary to point out the risk to which such attempts are liable, and to state that by going a little too far, a fresh inflammation may come on attended with a renewal of the thickening, and consequently a loss of all that had been gained by the former process. It is also to be observed, that as such inflammation of the lacunæ is a very uncommon occurrence, it can only

happen in patients whose constitutions are not naturally strong, and in whom these parts are more liable to be violently affected by slight causes than in people in general, and that therefore the surgeon should be more than usually upon his guard.

Where attention is paid to the rules which have been laid down, there are no cases of stricture more capable of being relieved by the caustic, and that with perfect safety; and indeed in the present state of our knowledge there is no other mode by which they can be treated with any material advantage.



## CHAPTER VIII.

## STRICTURES PRODUCING OTHER DISEASES.

IN a disease so general as stricture in the uerthra, and which has so powerful an influence upon the constitutions of different patients, it has been one of the objects of the present work to detect such complaints as arise in consequence of it, and to point them out to the practitioner, with a view that he may not mistake them for original diseases; and that when they do occur under doubtful circumstances, it may be known that stricture is among the causes from which they may arise.

## SECTION I.

## ERYSIPELAS IN CONSEQUENCE OF STRICTURE.

ERYSIPELAS is among the diseases attendant upon stricture, although of rare

occurrence; I have only met with two cases of this kind. In both of them passing a common bougie into the bladder, when it met with any resistance, brought on a violent erysipelas upon the head and face, which went off in a few days, without affecting the other parts of the body. The application of the armed bougie brought on an attack of the same kind; the effects of cold, whenever they diminished the stream of urine, and disturbed the functions of the bladder, produced the same effect. But after the stricture had been destroyed by means of the caustic, the use of the common bougie was regularly pursued, once a week, without bringing on any disturbance in the urethra, and was not followed by erysipelas; nor was there at other times any tendency to that complaint.

This becomes an additional proof, to many which have been already stated in these volumes, of the great sympathy or connection of parts between the urethra and constitution at large, and the readiness

with which a local irritation in that membrane is capable of disturbing the general habit.

It also throws considerable light upon the nature of complaints which can be so produced, giving evidence beyond all controversy, that they are diseases which can and may arise entirely from irritation acting upon the constitution in which they take place. For a simple bougie passed along the urethra can have no effect upon the blood, or the humours of the body; it can only irritate the surface to which it is applied, and by so doing disturb the constitution to which that part belongs, and bring on such complaints as that constitution is liable to have when so disturbed.

## SECTION II.

### SCIATICA IN CONSEQUENCE OF STRICTURE.

PAINS down the thighs in the course of the sciatic nerves are considered as symptoms of calculus in the bladder, and are



occasionally met with in that disease. They are however of so secondary a kind, as by no means to be depended upon in the investigation of that complaint, since they also belong to other diseases of the bladder, and neighbouring parts.

The application of the armed bougie often produces a pain down the thighs in the course of the sciatic nerve; but instances in which the branches of that nerve have been permanently affected by stricture are by no means common, nor have I ever found them so in any case of calculus in the bladder. This affection does not appear to be an immediate symptom of stricture, but a consequence of inflammation brought upon the strictured part by another disease, which in both of the following cases was gonorrhœa. It arises also from any other inflammation to which the parts may be made liable.

OF STRICTURE IN THE URETHRA ATTENDED  
WITH SCIATICA AFTER EVERY ATTACK OF  
GONORRHŒA.

CASE I.

A gentleman who had frequently contracted gonorrhœa, and had always been treated by the use of injections, in the year 1797 had a recent gonorrhœa, which was removed by the same means. He was afterwards attacked by sciatica, attended with spasms in the lower extremity of the same side, the most severe that can be imagined, followed by a painful affection of the back and knees. These symptoms were accompanied by a gleet; the use of calomel and antimonial powders, occasionally passing a bougie, and a voyage to a warm climate, removed these symptoms.

In the year 1799 he was so unfortunate as to contract another gonorrhœa, and returned to the use of his former injection, which brought on the sciatica aggravated

in a degree, and extending beyond its former limits, the spasms even affecting the intercostal muscles. He was confined to bed for nearly four months, and his life was in imminent danger. During the whole of this period he was helpless as an infant, and had a fixed pain in the back and lower extremities; his whole nervous system was very much affected, and it was a year before he was able to go about his ordinary avocations, although even then in very imperfect health. While he was labouring under these symptoms I was consulted, and there was something so very equivocal in them, that I was led to ask if he made water in a full stream, as I thought it possible they might arise from a stricture in the urethra. He said at the time he did not think that was the case, and by my advice had recourse to the tepid sea bath, and under that treatment was very materially relieved. The remark I had made left an impression upon his mind, and while at the sea side he communicated his case and my opinion to my friend Dr. Baird,



who examined the urethra, and found a stricture, which did not admit the smallest sized bougie to pass through it. This led the Doctor to believe the stricture might be the cause of all the distressing symptoms under which the patient had suffered, and as he had had a very extensive experience in the use of the caustic, in cases of stricture in the navy, he very cheerfully undertook the management of his friend's case.

The first application of the caustic brought on pain, irritation, and frequent desire to make water; but afterwards the pain was less severe. Two strictures were readily removed, but the third and last was two months before it admitted a common bougie to pass through it.

On the removal of the strictures, the general irritability of the patient's whole frame, and the restlessness at night, went off, his sleep became sound, his appetite was restored, and although for years he had been of a thin spare habit, he now shewed

a disposition to become fat. Since that time he has had no return of sciatica. This account is communicated to me by Dr. Baird, Commissioner of Sick and Wounded Seamen, under whose care the patient recovered.

## CASE II.

An officer in the navy in the year 1786, when sixteen years of age, had a severe gonorrhœa, which continued upon him for several months. From the time of his recovery, he continued well till the year 1791, when he was infected a second time: this complaint was cured in six or eight weeks; but two or three months after he got well, he was seized with a severe sciatica of the left side, which was removed by the use of the tepid salt bath. In the year 1797, he had another gonorrhœa, and went to sea with the complaint upon him; it was treated by the internal use of calomel in small doses. While under this mercurial course he caught cold, and had a second attack of

sciatica on the same side of the body, attended with violent spasmodic affections of the thigh and leg ; it afterwards extended itself to the other thigh and knee. Opium was the only medicine that procured him any relief from pain. He continued to labour under these symptoms for two years, but at the end of that time, they had almost entirely subsided, when unfortunately he received another infection, which was not of a very violent nature ; but during the inflammatory stage, there was a return of the sciatica ; the pain extended itself to the lower extremities, and afterwards over the whole body. In this state he returned to England, and tried various medicines without material advantage. Under these circumstances it was discovered, that he had a stricture in the urethra, for which he put himself under my care. The caustic was used for its removal, and as soon as the canal was restored to its natural state, the sciatica and other symptoms subsided. In February 1802, he contracted a fourth



gonorrhœa, which reproduced all the former symptoms in a more violent degree than in any of the preceding attacks. These resisted the effects of Bath, Bristol, and Cheltenham waters, but yielded to a course of mercury. Great irritation was brought upon the urethra and bladder by this last gonorrhœa ; and upon examining the canal by a bougie, there was a return of spasmodic stricture, which yielded to two or three times passing the bougie through it.

### SECTION III.

#### STRICTURES PRODUCING AN INVOLUNTARY PASSING OF THE URINE.

A WANT of retention of the urine cannot be considered as an immediate symptom of a stricture, the more usual effect of which is to prevent it from passing at all ; it does however not unfrequently occur, that in cases of stricture of long standing, an involuntary passing of the urine takes place.

When this symptom first came under my observation, I was induced to attribute it to an affection of the neck of the bladder, or a calculus contained in the cavity of that viscus; but as the patient had also a stricture, I stated that it was necessary the obstruction should be first removed, before any thing could be done for the relief of the disease to which I believed this very troublesome symptom belonged. Contrary however to my expectation, as the parts recovered themselves this symptom also went off.

That the symptom itself is produced by the state of the neck of the bladder does not, I believe, admit of a doubt; and as it is cured by the removal of the stricture, it would appear equally beyond a doubt, that the stricture is the original disease, by which the neck of the bladder is so influenced, as imperfectly to retain the urine. This is not the only mode in which the neck of the bladder is affected by stricture; in many instances there shall be a swelling

of the prostate gland, which will subside as soon as the stricture is removed.

The three following cases will explain the mode in which this symptom affects the patient, and the very gradual manner in which it recedes.

### CASE I.

An officer in the navy consulted me on account of a stricture in the urethra, the symptoms of which were making water with difficulty, and when asleep, or using exercise, a constant leakage, or involuntary passing of the water. Upon examination, there was a stricture found  $5\frac{1}{2}$  inches from the external orifice; this was removed by two applications of the armed bougie. Another was met with at 7 inches, which required six or seven applications before a bougie was allowed to go on into the bladder. The involuntary passing of the urine still continued, but evidently in a less degree, and the patient was able to retain his water



longer, and consequently make a greater quantity each time. Not having before met with this symptom, in so violent a degree, I was induced to believe that there was some other disease in the bladder, and therefore examined that viscus by a sound, but found no stone, or any other cause that could account for the involuntary passing of the water. I proposed that the patient should have a bougie passed twice a week, and that he should let the parts recover themselves, and see whether this symptom, which had begun to diminish, would not altogether subside. In the course of three months, it had become so inconsiderable, as to be of little or no inconvenience, and in three months more was so far removed as only to occur occasionally, and then in a trifling degree.

## CASE II.

An officer in the army, in the year 1800, was taken so ill at Minorca with the symptoms of stricture in the urethra, that the surgeon then with the army thought it absolutely necessary, that he should be sent to England for the recovery of his health. Upon his arrival in London, he put himself under my care. His principal symptoms were making water in a very small stream, with great straining, and occasional suppressions ; frequent attacks of ague ; and an involuntary passing of the urine in the day time, to so great a degree, that no means could be devised to keep him comfortable ; in the night the mattress, as well as the blankets, were so wetted, as to require being daily hung out to be dried. In this state, the armed bougie was applied to a stricture  $5\frac{1}{2}$  inches from the external orifice, and after two or three applications, his bladder during the day recovered, in a slight degree, its retentive

faculty. This stricture was removed by seven applications, and another stricture was met with at  $6\frac{1}{2}$  inches; the armed bougie was applied to this about thirty times, in the course of which, there were several attacks of ague. One application produced a violent bleeding, in which the patient lost about  $1\frac{1}{2}$  pint of blood; this, I told him, was a favourable circumstance, and I now had no doubt that the stricture was removed. Upon attempting to pass a bougie, I found, however, that it would not go into the bladder: this I attributed to some irregularity in the canal, having met with no instance in which there had been so violent an hæmorrhage without the stricture being entirely removed. I therefore passed a large-sized silver catheter, which readily went into the bladder. This was introduced every other day for three weeks, and then a bougie was found to pass with equal ease; the leakage was diminished, but still considerable. He went to the sea side, and used the tepid sea bath,



still persevering in the use of the bougie ; and in a twelvemonth the bladder had almost completely recovered its retentive faculty.

### CASE III.

This case was not under my own care, but that of Mr. Chevalier, surgeon in London, who copied it from his notes, thinking it might be deserving of my notice. I give it in his own words.

“ Henry Holmes, mason, aged thirty-nine, applied to me in February 1801, on account of an incontinence of urine, with which he had been afflicted between twelve and thirteen years. He dated his complaint from an attack of pain in the loins, attended with bloody urine, after lifting some heavy stones. This was succeeded by a puriform discharge from the urethra, but without any pain in making water. About a fortnight after, he strained himself again; he had no bleeding in consequence of this, but the discharge increased in quantity,

and he began to feel some difficulty in passing his urine, which shortly after only dribbled away. In about two months, he found, on rising in the morning, that his urine had escaped from him involuntarily in the night, and this it continued to do afterward; at first only once in three or four nights, but in a little time more constantly, so that at length he was always obliged to have cloths, or a chamber pot in bed to receive it. For the last several years he had also been frequently compelled to wear a bladder affixed to the penis in the day. The urine could only be evacuated by drops, and not without great straining and pain about the navel and in the rectum. Sometimes the pain was so great as to incapacitate him for voiding it altogether, and a stool accompanied every effort to do so. His general health was greatly impaired from these circumstances, and from repeated attacks of intermitting fever. He had taken many medicines, and used bougies for a considerable time; but only small

ones could ever be passed into the bladder, and of late not any could be made to enter it.

Feb. 25.—On examining the urethra by a full sized bougie, a stricture was found  $5\frac{1}{2}$  inches from the external orifice, to which the caustic was applied half a minute. No particular pain ensued. On account of the bad state of his health, he was directed to take one grain of vitriolated zinc, with eight grains of extract of cascarilla, three times a day.

Feb. 27.—He thought himself easier. The bougie passed on to a second stricture  $6\frac{1}{4}$  inches from the external orifice, to which the caustic was applied eight times between that day and the 17th of March. In the course of this time he had one ague fit, and one attack of the violent pain in the rectum, but his health was much improved; he could retain his urine better, especially at night, and voided it with much more facility. The pills were now ordered to be omitted.



March 20.—The bougie passed on to a third stricture, at  $6\frac{1}{2}$  inches; to this the caustic was applied 33 times between that day and the 15th of June; being occasionally interrupted by his leaving town, and other accidental occurrences. He had one attack of the ague on the 29th of March, on account of which he resumed his pills for a few days; but from that time, he remained well in health, and free from the pain in his rectum. The power both of retaining and voiding the urine gradually improved. On the 31st of May I had succeeded in an attempt to get a small flexible catheter into the bladder.

June 18.—The bougie passed on to  $7\frac{3}{4}$  inches, where another obstruction was situated, to which the caustic was applied one minute.

June 20.—On attempting to pass the bougie, the urethra was attacked with violent spasm, in consequence of which the bougie could only be made to pass six inches; but on the following day I passed

a full-sized sound into the bladder without the smallest difficulty. He now made water as well as he had ever done in his life, and could retain it two or three hours in the day time, but not so well at night.

June 25.—The sound passed again with the same ease as before. As his urine sometimes escaped from him in the night, I directed him to take two tea spoonfulls of the following medicine twice a day, in a glass of water.

R. Tinct. Cascarillæ dr. x.

Bals. Tolut dr. 4.

Cantharidis dr. 2.

July 18.—He found the power of retaining his urine progressively increasing. The dose of his medicine was increased to three tea spoonfulls; shortly after this he thought himself well enough to discontinue it altogether.

April 27, 1802.—He remained perfectly well.

## SECTION IV.

STRICTURE PRODUCING AN ENLARGEMENT  
OF THE TESTICLE, WHICH SUBSIDED WHEN  
THE STRICTURE WAS REMOVED.

THE following case, although detailed to illustrate a particular fact, which is certainly of rare occurrence, affords a striking instance of the great degree of connection between the urethra and testicle, and also points out some of the most distressing symptoms of stricture; it is a case in which more difficulties occurred, and more judgment and perseverance were required, for the removal of the disease, than in any other that has come under my care.

An officer in the army, who had resided many years in the East Indies, came to England on account of a stricture in the urethra, and put himself under my care.

In the year 1787, when thirty years of age, he perceived a slight obstruction in



making water which passed in two separate streams, but as he felt no inconvenience he paid little attention to it. At this time he was frequently attacked with severe fits of ague and fever, which the medical gentlemen who attended him attributed to the latent remains of a Hill fever, with which he had been attacked up the country in the year 1784, and which reduced him to a very debilitated state. It was the latter end of 1795 when he first began to feel strange sensations immediately after swallowing any liquid stronger than water; they were pains very difficult to describe about the neck of his bladder. These, however, were but a prelude to others more severe, after making water; the latter appeared to be just within the glans, and when that part was pressed between his fingers were for the moment relieved. During these paroxysms of pain, there was a constant inclination to make water, even after the bladder had been emptied; the strainings frequently were so violent, as to force out a glary substance,

not unlike in colour and consistence to the white of an egg, and in small globules like the grains of sago when boiled. About this period the urine was much discoloured by a white sediment, which sometimes made the water look like milk; his linen used to be stained in a manner that distressed him beyond measure, not knowing the cause, and ashamed to apply for advice. To this false modesty he attributed much of his subsequent sufferings. In December 1796, he went to a station some miles up the country, where he remained the two succeeding years; his old complaint increased, and new symptoms of distress came on, so that he was constrained to go to Madras in January 1799, with the intention of returning to Europe. For some time previous to this, his water had begun to flow involuntarily both day and night, and it required the utmost attention and difficulty to keep himself comfortable. The right testicle at this time began to swell to an alarming degree, but without inflammation; his whole frame

seemed affected, the left fore-finger became swelled and inflamed, and ague and fever were constant attendants. In this miserable state he arrived at Madras, where all these complaints soon became infinitely worse. It was remarkable, that the swelling in the right testicle, without any application, subsided entirely, and that the left became tumified in a much greater degree, and yielded to no means that were used to reduce it ; but after two months, this also subsided of its own accord. The right testicle now began again to enlarge, and in a very short time was more swelled than ever. An abscess formed upon the knee, which broke and became a sore: the finger at this time was ulcerated, and it was the opinion of the surgeons that it must be removed.

Under these circumstances he embarked for England. The sea air had such an immediate effect on his general health, that in less than sixteen days both the knee and finger were perfectly healed. Of the other complaints there was little abatement.



During the voyage, fever and aguish attacks were less frequent, but on the whole, he remained in a most wretched state. He reached Ireland in January 1800, and in the following month put himself under my care. Upon examining the testicle, I proposed leaving it to itself and commencing with the strictures, with the hope that their removal would render the testicle more readily disposed to subside. I accordingly began with the use of the armed bougie. The first stricture was close to the orifice; this yielded to two applications: a second stricture also soon gave way; but at this time the testicle became inflamed, and the spermatic chord thickened. It was of the size of a common orange, and its increase had been so very rapid, as to induce me to believe that the operation for removing it would become necessary; the patient was not sensible of danger, there being little or no pain. Leeches were applied, and embrocations used to reduce it, but in vain. Under these circumstances, I thought it improper to proceed

with the caustic, and proposed that if it was not better on the following day, there should be a consultation to determine what steps were to be taken. This, however, was rendered unnecessary by the inflammation gradually subsiding, so as to enable me in a few days to resume the operations with the armed bougie. The second stricture was now passed without producing any further influence on the testicle. After the anterior portion of the urethra had been enlarged for about a month or five weeks, the induration of the testicle began to disperse. It was softer to the feel, and the swelling became daily less and less till the autumn, when it was reduced nearly to its natural size. This was the more remarkable, as nothing was done towards reducing the swelling; it seemed to yield as the bougie opened the urethra. He was now in every respect better; he could retain his water from flowing involuntarily, though still obliged to make it very frequently, particularly in the night, when the calls were

commonly five, six, and often seven times: this was a sad inconvenience which he had long suffered. The use of the armed bougie was continued every other day till near the latter end of November, when a stop was put to our proceedings by severe ague and fever, and afterwards a bowel complaint, which confined him for two months, and reduced him to so weak a state, that I recommended his going to Bath. During a fortnight that he remained there, he found himself very much incommoded by an almost constant desire to make water, which was secreted in an unusual quantity, both night and day. The urine was almost one third mucus; the sediment resembled bird lime, and was very offensive to the smell. He returned to London the middle of February 1801, and I immediately resumed the use of the armed bougie. He now for the first time began to feel a strange pain in the perinæum after each application, which remained for hours: very possibly walking about on the days of operation, and immediately after the passing



of the armed bougie, caused these pains; there is no doubt that they at least increased them. An abscess had evidently formed in perinæo, and the urine was much impeded; this induced me to make a small incision in the perinæum to give a passage to the confined urine, which immediately flowed through the wound. This was in April. He was now confined to his bed, and suffered much from inflammation of the scrotum, where several abscesses formed, owing to the urine passing into the cellular membrane. He remained in this state until July, for two months unable to turn to the right or left side, lying the whole time on his back; the foetid discharge from the perinæum, as well as scrotum, notwithstanding the utmost attention to cleanliness, rendered him almost a nuisance to himself. A fresh cause of distress now made its appearance; this was a swelling of the prepuce, so as entirely to hide the glans. This proved the most troublesome of all his complaints, as it frequently kept us at a stand, and absolutely

prevented all attempts to renew our operations with the caustic; it yielded to no application whatever, and many were thought of and tried. Sometimes it appeared looser after a poultice of bread and milk had been kept upon the part: on these occasions the caustic was always resumed, and from practice I became able to find the orifice in the glans when it was almost completely covered by the contracted prepuce. The applications were continued until the stricture was destroyed, and an irregularity in the canal appeared to be the only impediment to an instrument passing into the bladder. I attempted to introduce a small catheter; sometimes it passed beyond that part, at others it was stopped by repeated inflammations. These attempts were persevered in for several months; at times a finger was introduced into the rectum, in hopes of guiding the point of the instrument into the bladder, but always without success, until the evening of the 17th of July, 1802, when to the patient's inex-

pressible joy, after passing the catheter, as usual, down to the diseased part, and withdrawing it, I introduced a smaller one, which slipped into the bladder. The second and third nights after, it also went on to the bladder, and on the fifth, the larger instrument passed in with more ease than could have been expected. This operation was repeated regularly once a day.

On the 14th of August, he was allowed to pass some time at Cheltenham. After a confinement of eighteen months, I was of opinion, his general health was likely to benefit by change of air, and the use of the waters, and likewise thought it possible the swelling of the prepuce, which had all along more or less impeded our operations, might be removed. After remaining there six weeks, and drinking the waters daily, though his health visibly improved, and he felt himself better than he had been for years past, still the waters had no effect whatever in reducing the swelling of either the prepuce or perinæum; on the contrary, after the



first three weeks, they appeared rather to become worse, and his water did not flow so well. At this period, he was attacked with a violent pain in the hip, preventing him from all motion in the limb, and the first surgeon he consulted, said the joint was dislocated; this upon examination was found to be untrue. The lameness continued with all the symptoms of common rheumatism, and was therefore supposed at the time to arise from that cause. I am, however, convinced it was dependent on the state of the urethra, a similar attack having occurred in another patient, just after the urethra had been irritated by a bougie unskilfully passed, and it corresponds with the effects of the inflammation of gonorrhœa sometimes met with, when it attacks the strictured part, producing sciatica, which has been already noticed. When he returned to town, he was obliged to support himself on crutches, and suffered severely from the pain in the hip. The orifice of the glans could not be seen,

the prepuce had become so much contracted.

On the 30th September, I resumed the use of the catheter, and on the following day, the instrument passed with ease into the bladder; this was repeated for six days. It had an immediate effect on the prepuce, which daily became better, and the hip gradually recovered, so that he could walk as well as ever.

On the 12th of October, a catheter of a larger size passed into the bladder very readily, and the introduction of it was repeated for three days, when I was induced, from such favourable symptoms, to attempt passing one of the full size, which likewise went into the bladder with more ease than the state of the parts could have led me to believe it would have done.

16th October, there were some slight threatening of chilliness over the body, and the parts were allowed to remain quiet.

17th. The second sized catheter was passed into the bladder with little difficulty,

and afterwards the full sized one through the diseased part; but it was not forced into the bladder. The effect this dilatation of the urethra had upon the prepuce was its daily becoming looser, and the swellings in perinæo, which had so long annoyed the patient, evidently began to disperse. The fistula in perinæo, from the same cause, was in every respect mending; a very small portion of the urine passed through the orifice, and the canal was so large, as to admit of its passing the natural way in a full stream. The bladder became so perfectly free from any irritation, that the patient could now retain his water, as well as the most healthy person, the calls to make it never exceeding three, and sometimes being only two in the twenty-four hours.

18th. The full-sized catheter passed easily twice into the bladder.

19th. The second sized instrument passed, but not so readily, owing to some slight irritation on the parts. It was passed every



day till the 24th, when the large instrument was passed without difficulty; but on entering the neck of the bladder, it caused some pain, from the patient having imprudently walked out, and sat down in the Park, which brought on irritation.

26th. Both instruments passed into the bladder.

27th. The large catheter passed with more ease: this was the first attempt to pass it, without previously passing a smaller one.

28th. This was repeated, and with less pain.

29th. Passed the large instrument into the bladder with the same ease.

30th. The large instrument passed with more ease, and the prepuce was much looser, and its orifice enlarged.

31st. The large catheter passed as usual; but upon entering the neck of the bladder, it was attended with some pain.

November 1st. Slight symptoms of ge-

neral chilliness all day, with a pain across the loins. Nothing therefore was done this evening.

2d. He took an opening draught this morning; all the disagreeable symptoms of yesterday subsided. Only passed the second sized instrument this evening, which was done very readily. The irritation on neck of the bladder still remained in a slight degree; the prepuce looser than for many months.

4th. The large instrument passed into the bladder with more ease than it had ever yet done.

5th and 6th. Passed the same instrument with increased ease.

7th, 8th, and 9th. Each of these days passed the catheter. The parts have now attained a wonderful degree of quietness; the instrument passed on with less resistance, and less pain every time.

13th. The large catheter passed three times into the bladder, more easily than ever.

14th. The instrument with a very reduced curve passed three times, with as much ease as the other.

15th. Passed the catheter as favourably as last night.

16th, 17th, and 18th. Passed the instrument each night three times into the bladder.

20th. The instrument was passed with less resistance than ever through the stricture in a straight direction. On this day the prepuce, for the first time these two years, was so loosened, as to admit being drawn back to its full extent, completely uncovering the glans.

From the 21st to December 1st. The instrument each day was passed as usual, with increased ease.

On the 2d. The patient passed the catheter, without assistance, fairly into the bladder.

The mode adopted of reducing by means of the catheter the thickened parts surrounding the urethra to their natural state, after the stricture was destroyed, has



been more particularly detailed, as the same practice has not been fully stated in any other case in this work, although in many of those of long standing it has been had recourse to. The catheter was passed daily by the patient, for three months, at the end of which time, the only symptom that remained was occasionally passing a few drops of urine by the fistula, although he used exercise, and went to the different places of public amusement, seldom going to bed before twelve o'clock at night.

In this state he embarked for India, passing the catheter every other day into the bladder, to preserve the parts in their present state, and to allow the small fistulous orifice being completely healed. In the month of June, he wrote a letter, stating himself to be entirely free from complaint.

## SECTION V.

STRICTURES PRODUCING A DISEASED STATE OF THE SURFACE OF THE TONGUE, WHICH DISAPPEARED UPON THE REMOVAL OF THE STRICTURE.

AFFECTIONS of the tongue very often arise from an irritated state of the stomach, and in general the best mode of relieving them is by giving such medicines, as are found capable of correcting the wrong actions of that viscus.

The strong sympathetic connection between the urethra and stomach has been noticed in several parts of this work; and the following case is a proof of its being the means of producing a complaint in the tongue, which, upon other occasions, is found to occur, where the stomach has been disturbed by very different causes.

## CASE I.

A gentleman, thirty years of age, who had repeatedly been affected by gonorrhœa, in the treatment of which injections had always been used, in the year 1799 was occasionally subject to a discharge from the urethra; this came on after violent exercise, or having connexion with women. There was also a diminution in the stream of urine, which led to the suspicion of his having a stricture. The common bougie was passed, and worn during the whole night; but this not succeeding, his surgeon had recourse to the use of the armed bougie, and by that means was enabled to procure a passage into the bladder, but too small for the entire removal of the stricture; and the disposition to gleet still continued.

In January, 1803, he perceived a small spot on the upper surface of the tongue, near the root, which projected above the other parts, and was covered with a white



crust. This gradually increased in size, and in May, when I first saw it, was an inch broad, and about two inches in length; its surface was irregular, and the spongy cuticle which covered it adhered too firmly to be removed, although it did not appear to have the natural connection with the tongue, looking like a patch, distinct from the texture of the surrounding surface.

When I was consulted, nothing was mentioned but the appearance on the tongue, which had resisted the different means employed in the country for its removal; these consisted principally of washes, and the internal use of Velno's vegetable syrup. I proposed small doses of calomel, and the use of the tepid salt bath; these were tried for a week, with little or no benefit. In conversation, the patient mentioned that he had another complaint, which was a stricture in the urethra. Upon examination, a stricture was met with, and I explained the probable connection between the two diseases, advising him to let the

tongue alone till the stricture was removed, as it might possibly recover under the treatment necessary for that purpose. This was assented to. After four applications of the armed bougie, he made water in a better stream; the tongue was much mended in its appearance, and the cuticle was separated from the diseased part. Thirteen applications removed the stricture, and a full sized catheter could be passed into the bladder. At this time the diseased part of the tongue was only to be distinguished by having a new cuticle, thinner than that which covered the rest of the organ.

In this case, the local complaint in the urethra appears to have disturbed the stomach, and by having done so, produced a complaint in the tongue.

## CHAPTER IX.

STRICTURE IN THE URETHRA ACCOMPANIED  
WITH A STONE IN THE KIDNEY, WHICH  
KEPT UP SYMPTOMS OF IRRITATION IN  
THE BLADDER AFTER THE STRICTURE WAS  
REMOVED.

Two distinct diseases in different parts of the urinary passages, when they occur at the same time, and produce nearly similar effects upon the bladder, involve the case in the greatest degree of obscurity; for although neither of them is actually a disease of the bladder itself, that viscus may be the only part to which the symptoms, during the patient's life, can be referred. One case only of this kind has come under my observation, of which the following is a short account.

A gentleman, sixty-eight years of age, consulted me on account of a number of



strange feelings in his stomach and bowels, great depression of spirits, and a discharge of mucus from the urinary bladder. These complaints had begun many years before I saw him, and almost every medical man of eminence in London and Dublin had been consulted. In the investigation of the symptoms, it was found that a stricture had formed in the urethra, which, there was every reason to believe, had existed fifty years, having had its origin from a severe gonorrhoea, when he was eighteen years of age. He had occasionally used bougies, but not finding material advantage from them in the relief of his symptoms had left them off.

The local symptoms were frequency in making water, attended with straining, and the urine loaded with mucus, of different degrees of consistence at different times; and occasionally tinged with blood. I declared his symptoms to be those which arise from a stricture, keeping up an irritation in the bladder, and I thought it

highly probable, in so irritable a constitution, that the general symptoms, as well as those of the stomach, might also arise from the same cause.

The use of the caustic was had recourse to for the removal of the strictures, and the first, which was  $5\frac{1}{2}$  inches from the external orifice, was removed by seven or eight applications; at this period, the making water was less frequent, the mucus was diminished in quantity, and his general health appeared to be improved. Another stricture was met with at  $6\frac{1}{2}$  inches, and the application of the armed bougie to this part gave considerable pain, and brought back all the symptoms of irritation. To remove this stricture, the caustic was used between thirty and forty times, at different intervals according to circumstances, and while this process was going on, the bladder suffered more from irritation than is usual in such cases. When the bougie passed into the bladder, I was much mortified at finding an increase of all the symptoms,

which decided me in the opinion of there being some disease in the bladder; this I naturally suspected to be stone, but on examination none was found. I advised the leaving off the use of the bougie, and to give the bladder time to recover itself, as it was probable the long continuance of the stricture had brought the internal membrane into a diseased state, from which it might require many months to recover, after the original cause had been removed.

His symptoms continued without any abatement; he gradually lost his flesh, without any sufficient apparent cause, and died two years after.

On examining the body after death, the canal of the urethra was free from any contraction, and the spots where the strictures had been could be readily distinguished, the membrane being thinner, more vascular, and less moveable in the surrounding parts, than the rest of the urethra. The prostate gland was in a natural state. The bladder was diminished in its capacity,



the cavity being only sufficient to hold two ounces of water ; its inner surface was in many places studded over with spots of coagulable lymph, and where that was not the case, unusually vascular.

In the pelvis of the left kidney was a calculus filling up the whole cavity, and having projecting portions which extended into several of the infundibula ; the inner surface of the ureter was in a state of inflammation.

In this case there can be no doubt of the stone in the kidney having kept up a constant irritation and inflammation there, which was extended along the course of the ureter to the cavity of the bladder, producing symptoms, which necessarily misled the judgment of every medical practitioner, leading him to believe that the bladder was the seat of the disease. The stone having projecting parts, which extended into the infundibula, fixed it in its situation, and prevented the symptoms of pain in the loins, and sickness at the stomach from

being so distinctly marked, as to give a suspicion that the kidney was the seat of the disease; but did not prevent the general emaciation of the body, which so commonly is the effect of any disease in the kidney.

## CHAPTER X.

STRICTURES TO WHICH THE CAUSTIC HAS  
BEEN APPLIED RENDERED MORE EASILY  
DILATED BY THE COMMON BOUGIE.

THERE are strictures in some constitutions which cannot be removed by the caustic. This does not arise from the armed bougie producing unusually violent local effects in such patients, but from the disposition there is to paroxysms of fever, and these so violent, as to leave the constitution in too exhausted a state to admit of the mode of treatment being continued. The first paroxysm of fever which takes place is such as very frequently occurs; the second is more severe; the third is very violent; and every future application of the armed bougie is, in the course of six or twelve hours, followed by similar paroxysms, so as to render the constitution incapable of supporting itself under them.



Several such cases have come under my observation, and in the former volume I have taken notice of them. In one of these, the patient discovered that the effects of the caustic upon the stricture had enabled him to pursue the use of the common bougie in a way, which, before the caustic had been applied, was entirely out of his power. It will be sufficient for our present purpose to give the particulars of this case, mentioning, at the same time, that a similar effect has been met with in other instances.

A gentleman between fifty and sixty years of age, who had suffered severely from a difficulty in making water, and all the other common symptoms of stricture, for fifteen years, had in the course of that time been under the care of different surgeons, more particularly under the late Mr. Hunter's, but without reaping any benefit; for the only mode of treatment which was had recourse to, was the use of the common bougie, and although a small one could be passed into the bladder, any

attempt by dilatation to admit a larger brought on spasms and irritation, so as to make the contraction even greater than it had been before the attempt was made. These were the circumstances which made him put himself under my care, and I confess the case appeared to me one, in which it was highly probable the stricture would be removed by the caustic. But so violent were the feverish paroxysms which followed every application, that after ten applications, I begged to decline any further attempts. The patient's extreme anxiety to get well, and his viewing this as the only chance within his reach, induced him to go on with the greatest fortitude, and made him willing to bear any thing, which might ultimately produce a cure. The last paroxysm was so violent in its effects, as to make it necessary for him to go into the country for the recovery of his health. As soon as his strength was restored, he thought it prudent to return to the use of the common bougie, in the same manner

as before the caustic had been used, and he had the satisfaction to find, that it now passed with more ease than usual. This induced him to attempt an increase of its size, which was not followed by any spasm or irritation ; and by going on in a gradual manner, in three or four weeks he was enabled to dilate the canal till it admitted a middle sized bougie, from which he received a degree of comfort and relief he had been many years a stranger to.



## CHAPTER XI.

FALSE PASSAGES FORMED BY THE USE OF  
THE CAUSTIC.

THE use of the armed bougie, like every other surgical operation, may be thrown into discredit, when in the hands of an unskilful person; and it ought to be generally known, that this mode of treating strictures should only be practised by surgeons, who have a thorough knowledge of the anatomical structure of the parts, and who, from the habit of performing operations, have acquired the necessary dexterity, to enable them to make the application with accuracy. I am led to this remark, and to dwell upon it as a matter of no small importance, from having found that several of our best surgeons, who had not applied their minds to this operation, in some of their first attempts failed of success, by

breaking through the urethra, and making a false passage.

To some patients the operation has seemed so simple, that they have undertaken the management of their own case. This appears to me, in all instances, highly injudicious, and what never ought to be attempted ; for although it may be done with impunity in some of the more early stages of the complaint, it will almost always be attended with danger where the disease is more advanced.

There is one obvious reason, why no person should attempt such an operation upon himself. The great nicety required is to apply the caustic with accuracy and steadiness to one particular spot, and to that only. Now there is a curious fact, which is only to be learnt by experience in this practice, that no one is capable of distinguishing accurately between the feel of resistance and local pain, and patients are constantly mistaking the uncommon sensibility of a particular part of the urethra

for a stricture, believing they meet with resistance, because going further gives pain. This is a practical remark which I have occasion to make almost daily; and I have great difficulty in convincing patients of its truth. I mention it here as the most unanswerable objection to a patient attempting to perform this operation upon himself, a subject I should not have thought it necessary to dwell upon, had I not been frequently applied to for such permission, and also known very many instances, in which it has been attempted without any benefit, and others, where the parts were brought into such a state, as not afterwards to admit of a cure.

In strictures of long standing, where the parts are much thickened, and more than twenty or thirty applications of the caustic are required for the removal of one obstruction, the armed bougie acts more powerfully upon the under part than the upper, in consequence of the dissolved caustic resting there. The inferior portion of



the stricture will therefore be first destroyed, and if the use of the caustic is continued, too large a breach may be made through the lining of the urethra, and a new passage formed below the natural one.

To avoid this, it is necessary from time to time to press the end of the white bougie upon the part which forms the obstruction, and to examine accurately the impression which is made upon it. If the end is smooth upon its lower surface, and there is a transverse notch upon the upper, the use of the caustic is to be persevered in; but if the notch or other irregularity is upon the lower surface of the point, as if the end of the bougie is split, one portion passing upwards and the other down; or, if the whole of the point of the bougie is turned a little downwards, it will then be improper to persevere with the caustic, as the bougie is evidently taking a wrong direction. Under such circumstances, a silver catheter which has a greater than ordinary curve

should be introduced; and in general it may be guided into the bladder, the stricture either having been wholly removed, or sufficiently so, to admit of its being passed.

In most cases of strictures which have been very obstinate, a breach must be made in the inner membrane at the lower part, before the upper portion of the stricture can be removed. This, however, is in general so slight, as not to prevent a bougie being passed into the bladder, although it sometimes does. But if the circumstance of such a breach being made is not adverted to by the surgeon, a false passage will almost always be formed; and I have met with a great many cases treated by other surgeons, in which this had happened, and not being able to pass a bougie into the bladder, both the surgeon and patient became alarmed and wished to have my assistance. In such cases, as the stricture had also been removed, or its aperture much enlarged, I have by means of the catheter succeeded in getting into the bladder, and,

by passing that instrument regularly in the same manner as a bougie, have in the end brought the canal into its natural state, and a bougie has passed with nearly the same ease as if no such breach had taken place. In other cases a hitch remains at that part, in consequence of the depression not having been filled up, which, by an unexperienced surgeon, may be mistaken for a stricture, and may lead him to do much mischief in his attempts to remove it.

It does not appear that any material advantage can be gained from the histories of many cases of this kind, which must be very similar to one another; all that is meant is to point out the error which may be committed, the mode in which it may be guarded against, and when it has taken place, how it is to be remedied.

The following case is the worst of the kind I have seen, as no instrument could be passed into the bladder; it will explain the extent to which a false passage may be made, without the surgeon being aware



of it, and shew how slight a degree of disturbance it may produce in the neighbouring parts.

A gentleman, who had suffered from irritation in the bladder, consulted his surgeon, who upon examining the urethra found strictures which were considered to be the cause of his complaint, and the use of the caustic was adopted for their removal. Several strictures were removed in succession, and the bougie, after the caustic had been applied fifty or sixty times, was made to pass 8 inches from the external orifice, but could not be made to reach the bladder. Under these circumstances I was consulted, and had no hesitation in declaring the bougie must have taken a wrong direction; but as the bougies used had been much too small, and one of the proper size could only pass 5 inches down without meeting with an obstruction, I proposed applying the caustic there, and that by going on in this way, things might be brought right. Six applications to this part enabled the

bougie to pass down to 7 inches. While we were employed in removing this second stricture, the constitution seemed much disturbed; and whenever he went to sleep there was an involuntary passing of the urine; this was in a greater degree after each application. An attack of fever came on, which reduced him exceedingly, and continued for a week or ten days; this was followed by a purging and night sweats. An erysipelatous inflammation attacked the mouth and spread itself along the whole intestinal canal, producing mortification in the ilium, and death.

Upon examining the body after death, there was found a large stone filling up the cavity of the bladder, having a small projection which lay in the orifice leading to the urethra. There was another small stone in the urethra itself, which had opposed the end of the armed bougie, and turned it aside against the lining of the urethra; by continued applications, a false passage had been made nearly two inches long, the

internal surface of which was so smooth as not to be distinguished from that of a natural canal; nor did there appear to be any other mischief arising from it than its preventing the bougie from taking its proper course.



## CHAPTER XII.

CASES IN WHICH SUPPRESSION OF URINE  
IN CONSEQUENCE OF STRICTURE HAS BEEN  
SO LONG CONTINUED, AS TO REQUIRE  
THE OPERATION OF PUNCTURING THE  
BLADDER.\*

CASES of suppression of urine, in which the operation of puncturing the bladder has been performed, have been few in number, and the histories of them are dispersed through a variety of publications. In these accounts, a particular detail of the cases is seldom given, only the general results; so that we have less knowledge of all the circumstances which attend this operation, than of almost any other in surgery.

So rarely has this operation been per-

\* The greater part of this Chapter is taken from a paper published in the Second Volume of the Transactions of a Society for improving Medical and Chirurgical knowledge.

formed in London, that in the year 1777, when Mr. Reid, surgeon in Chelsea, was collecting materials for publishing a pamphlet in favour of puncturing the bladder by the rectum, and applied to seven of the most eminent surgeons, belonging to the different London hospitals, for their opinions respecting it, there was only one of them who had ever punctured the bladder, and he only in two instances; in one above the pubis, and in the other through the rectum; and only one of the other six surgeons had ever seen it performed.

The three situations, in which this operation is performed, are in the perinæum, above the pubis, and through the rectum. There are cases published, giving an account of the event of each of these different modes; but in an operation of such rare occurrence, no author that I have met with has given from his own observation successful cases of the different operations, explaining the symptoms, so as to allow of their being compared together, and the

advantages and disadvantages of each fairly appreciated.

Having had an opportunity in the year 1788, of assisting the late Mr. Hunter in performing this operation above the pubis, in a case which terminated favourably, and having since that time performed it in several instances through the rectum with equal success, it is my intention to state the particulars of these cases, and my observations upon them.

A CASE OF SUPPRESSION OF URINE IN CONSEQUENCE OF STRICTURE IN THE URETHRA, IN WHICH THE BLADDER WAS PUNCTURED ABOVE THE PUBIS.

A gentleman, thirty years of age, had laboured under symptoms of strictures in the urethra for nine years, and had been occasionally attacked with fits of strangury; these attacks were relieved by introducing a bougie, which instrument was only used on such occasions.



In January 1788, one of these fits of strangury came on; during the first two or three days, his urine only passed by drops, but at last there was a total stoppage of it. This alarmed the attending surgeon, and after the suppression had continued for twenty-four hours, Mr. Hunter was sent for at twelve o'clock at night to perform some operation to empty the bladder. The state of the patient having been mentioned along with the message, Mr. Hunter desired me to accompany him, and to carry different instruments, that he might be enabled to act according to the circumstances of the case.

When we were introduced to the patient, he had sickness with retching, and slight hiccup; no instrument could be passed by any effort into the bladder, although repeated attempts were made for that purpose; it therefore appeared to Mr. Hunter, that no time was to be lost in relieving the bladder. On examining the belly, the tumour extended as high as the navel, and

the parts were sore to the touch; by introducing a finger into the rectum, the bladder was felt to press backward into the hollow of the sacrum.

In considering the best situation for puncturing the bladder, Mr. Hunter would have preferred the perinæum, and would have performed the operation in the manner recommended in his treatise on the venereal disease, that he might have emptied the bladder, and removed the stricture at the same time; but in the night he thought the circumstances unfavourable for so delicate an operation. He was unwilling to make the puncture through the rectum, from an idea that the orifice could not be continued open, till the stricture was removed; he therefore, determined to make the puncture above the pubis.

In performing the operation, he felt for the os pubis as a guide, choosing to be as near it as possible, that he might avoid entering the cavity of the peritonæum; but

the parts were so distended, that he could not feel the bone, and was therefore obliged to guess at its situation.

He first made an opening through the skin with a lancet, and then passed the trocar perpendicularly down into the bladder. Upon withdrawing the trocar, the urine rushed out with violence through the canula; a flexible gum catheter was then introduced, and the canula of the trocar withdrawn over it; the catheter was retained in its place by tying it to a bandage passed round the body, directly above the opening.

In consequence of the distention of the bladder, and the opening into it, there was a good deal of pain in the abdomen, soreness when the external parts were pressed, heat on the skin, and frequency of the pulse, which led to a suspicion of there being an inflammation of the peritonæum. Leeches were twice applied to the abdomen, fomentations were used, and an application



of spirits was kept almost constantly upon the belly ; saline draughts, gently opening medicines, and anodyne clysters were occasionally had recourse to. These symptoms subsided, and the urine came principally and freely by the side of the instrument.

The next object was to dilate the stricture : this was attempted by the bougie. Bougies of a small size sometimes seemed to pass, but there was no proof of their having really having done so.

About a fortnight after the operation, the cellular membrane appeared at the orifice of the wound, like wet lint ; a swelling was perceived at each side extending to the spine of the os ilium, in which there was an evident fluctuation ; this arose from the formation of matter in consequence of the urine having insinuated itself into the cellular membrane.

After persevering with the bougie for three weeks without making any progress, the caustic was used ; when it had been

applied twice, a small silver sound was passed, which found its way into the bladder. This was kept in the urethra for six days, and when it was withdrawn, one of a larger size was introduced, and retained there for five days. Some of the water now passed by the urethra at the side of the sound, but with great pain. In five weeks from the time of the operation, the patient was evidently beginning to sink, had a wild desponding stare, and all the common symptoms of hectic fever; it therefore appeared absolutely necessary to remove the catheter from the artificial opening in the bladder as soon as it could be done with safety. The silver sound was taken out of the urethra, and an attempt was made to pass a flexible gum catheter, which fortunately found its way into the bladder.

The moment this was accomplished, the catheter which had remained in the bladder forty days, was withdrawn from the opening above the pubis, and it brought along with it a quantity of cellular membrane in

the state of slough; this was followed by near a pint of matter.

From this time the patient began to mend in his health; in a few days the orifice of the wound was nearly closed, little of the urine coming that way, as the greater part was regularly drawn off by the catheter in the urethra. In six days the catheter was taken out; upon withdrawing it, the surface was found incrustated with calculous matter, so as to hurt the parts as it passed along the canal; another was immediately introduced.

About this time the wound above the pubis healed up, but very soon broke out again, and discharged a quantity of matter, without urine, which led to the belief that the orifice in the bladder was healed. He was now allowed to sit upon a couch, and eat whatever agreed with him.

After the second catheter had remained in the urethra six days, it was withdrawn, and was found incrustated as much as the former; another was immediately introduced.



The wound above the pubis healed a second time. At the end of four days the third catheter was withdrawn, and the parts left to themselves; in four hours after the catheter had been taken out, the patient had an inclination to make water, which he did with great freedom; this was at the end of the eighth week, and he continued to do so for several days, when the wound above the pubis broke out again, and discharged matter, and afterwards urine. In three days the orifice of the wound began again to contract; the urine passed more freely by the urethra, and the wound once more healed. Matter again collected on each side of the abdomen, and there was discharged externally a quantity of foetid matter. After some days a fresh opening took place on the right side, giving a free vent to the matter lodged there. The original wound now healed entirely, but another abscess formed near the groin; this broke and discharged freely; both these openings healed in a short time, and

in thirteen weeks from the time of the operation, the parts were all consolidated.

Fifteen years have now elapsed, and the patient has continued well, and has made water freely ever since.

CASES OF SUPPRESSION OF URINE IN CONSEQUENCE OF STRICTURE IN THE URETHRA, IN WHICH THE BLADDER WAS PUNCTURED THROUGH THE RECTUM.

CASE I.

A gentleman, forty-six years of age, twenty-five years ago had a gonorrhœa, the inflammatory symptoms of which were removed in six weeks; but the discharge continued above a year. This led him to consult different practitioners, who employed a variety of injections to get rid of it. After the use of these, there was a greater frequency of making water, than he had before experienced, and an uneasy sensation along the urethra, particularly

near the bladder. These symptoms continued, and rather increased for six years, when a new symptom came on, which was an occasional want of power to make water, lasting a few seconds, and then going off.

These stranguries increased gradually in frequency and duration, and in eighteen years had rendered the bladder so irritable, that it never retained more than three ounces of water at a time, and very often not half that quantity. The patient's mind was kept in a constant state of apprehension of a complete stoppage; his general health was much impaired, and the slightest exposure to cold affected his bladder, so as to give him incessant calls to make water.

Under these circumstances I was consulted; it was found upon examination, that strictures in the urethra had brought on the present symptoms. For the removal of these he put himself under my care, and, that he might have every necessary assistance, took lodgings near me.

The first stricture met with was  $4\frac{1}{2}$  inches



from the external orifice. On the 25th of June, 1799, I applied a bougie, armed with the argentum nitratum, to this stricture, which gave him considerable local pain, but the application relieved the irritation in the bladder, and he made water more freely than before. The same treatment was used every other day, and three applications were found sufficient to open this part of the canal.

There was a second stricture at six inches from the external orifice; to this the armed bougie was applied on the 1st of July, and in a few hours one of his usual attacks of irritation came on, with ineffectual straining to make water. This was relieved by passing a small bougie into the bladder, which, however, could not be done till after several ineffectual trials.

July 2d. In the evening, the irritation returned with great violence, and was very severe; no bougie could be passed, and a starch clyster with thirty drops of tincture of opium was thrown up. This was not

retained, and the irritation increased. Upon a second trial, at eleven o'clock, a small bougie passed, and he discharged about two ounces of urine in a small stream, which relieved him. In an hour the irritation returned, attended with a slight degree of delirium, great thirst, restlessness, and anxiety. At one o'clock in the morning no water had passed, and a bougie could not be introduced; an opiate clyster was thrown up, containing forty drops of tincture of opium; in half an hour another was administered with sixty drops, but the general irritation and painful sensations increased, and thirty drops of tincture of opium were given by the mouth. In this state the patient, in a fit of despair, got a bottle of tincture of opium, and while the nurse went into the next room, took, at two different times, 180 drops; so that in the space of an hour and a half he had taken 210, besides what was contained in the clysters. This increased his delirium. At ten o'clock in the forenoon he was put into the warm bath, and after coming out,

a small catgut bougie passed into the bladder, and brought off about two ounces of water; this relieved him very much. He passed no water during the rest of the day, and the warm bath was repeated in the evening; in the course of the night, he passed nearly a pint of water, about two ounces at a time.

July 4th. He took an opening draught, which procured him two or three motions. In the course of the day he voided a good deal of urine, in small quantities, with straining and much pain. These symptoms were aggravated by the piles, to which he had been accustomed, and which were now forced out, and were very large; they were punctured, and bled freely, which diminished their size, but did not lessen the pain.

July 5th. Passed his urine with tolerable ease through the day in small quantities, but a suppression came on in the night, and at four in the morning he was in such



a state of irritation, as to give an alarm of his losing his senses.

In this state he expressed the most anxious desire, that an opening might be made to empty the bladder; and his sufferings for the last three days had been so great, that I thought myself justified in complying with his request.

The instrument I made use of was the long curved trocar recommended by Pouteau, only made flat instead of being cylindrical, which rendered the point better adapted for wounding the bladder, and the flattened form was considered as better fitted for lying without inconvenience in the rectum.

This instrument I have had by me for many years. I passed my fore finger up the rectum and felt the bladder, which was less prominent than it was reasonable to expect; upon this finger I introduced the instrument, with the point concealed in the canula, up to the part which I intended

to puncture, and then pushed it into the bladder. On withdrawing the piercer, the urine flowed freely through the canula; the quantity evacuated was only four ounces; but as the bladder for many years had not retained more than three ounces, this was a large quantity in the present irritated state of that viscus.

The operation was performed on the 6th of July, at half past four in the morning; the wounding of the bladder gave him no sensible pain, and he felt very easy the moment the urine was evacuated. The canula was confined in the rectum by a bandage.

As it was necessary that the wound in the rectum should be kept open till the stricture was removed, it was determined to retain the canula in the bladder till the edges of the wound should be consolidated, by inflammation; after which, the urine passing through the fistula, would prevent its closing till that fluid was conducted by another channel.

The urine passed through it involuntarily, but did not flow constantly; and when it was forced out, he felt a pain in the glans penis. He slept in the course of the forenoon more than he had done for two or three days, and was tranquil and comfortable; his mind was also at ease by having lost the dread of a stoppage, which before affected him nearly as much as the reality.

In the evening he took three ounces of the *mistura camphorata*, with thirty drops of tincture of opium. In the night, the same quantity of that mixture was given, with twenty drops of tincture of opium, in consequence of the pain and irritation experienced when the urine was forced out by the action of the bladder.

July 7th. The urine was passed at longer intervals, but the straining at these times was great, and attended with pain; it felt to him that some drops lodged at the neck of the bladder, and he could not resist the inclination of making an effort to discharge



them. The same opiate draught was repeated at night, but did not prevent him from being very restless.

July 8th. He took an opening draught, which operated and relieved him very much ; there was no inconvenience from the instrument lying in the rectum. The intervals between the times of making water were longer than usual ; the opiate draught was repeated at night ; he slept a good deal and was much refreshed.

10th. The armed bougie was applied a second time to the stricture, after which he had less irritation in the urethra at the time of the water passing through the rectum.

11th. The irritation in the bladder was considerable, and the urine did not pass readily through the canula, which induced me to remove it, as it had remained there five days. The sides of the wound between the bladder and the rectum were considered to have had sufficient time to be consolidated by inflammation, so as to prevent

the urine from insinuating itself into the cellular membrane. Upon removing the canula the irritation subsided, and he slept well in the night with the usual opiate.

12th. The second stricture was found to be removed, and the armed bougie was applied to a third stricture, about seven inches and a half from the external orifice. The urine was passed at regular intervals of half an hour through the wound without uneasiness. The usual opiate was repeated at night ; he slept well, and a few drops of water passed by the urethra.

14th. Towards the afternoon he had a violent attack of irritation, and constant desire to make water, which came away with great uneasiness. He took thirty drops of tincture of opium, which made these symptoms subside. After this three ounces of urine passed at one time, by the urethra, without pain, and the same quantity continued to pass once an hour. He had a very comfortable night.

15th. The armed bougie was applied a

second time to the third stricture; it gave a great deal of local pain, which lasted for an hour; his water passed easily through the day; the opiate draught was repeated, and he slept tolerably well.

16th. The opening medicine was repeated, and he had no irritation in the bladder during the day; in the afternoon the greater part of the urine passed by the rectum, a small proportion by the urethra; the opiate draught was repeated, and his night passed very quietly.

17th. The armed bougie was applied a third time to the third stricture, and the water passed entirely by the urethra without much pain or straining; the night draught was repeated, and he had a quiet night.

18th. About two o'clock in the day he voided some blood through the penis, and also by the rectum, with a large piece of slough, and was very easy the rest of the day; the opiate draught was repeated, and he had a good night.



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19th. The urine passed entirely through the rectum; he had a good night without the opiate draught.

20th. The armed bougie was a fourth time applied to the third stricture; the local pain was very severe, and there was a small discharge of blood; the pain lasted near two hours, but he had no inclination to make water for six hours; the water passed by the rectum without any straining, and he did not again make water for six hours.

21st. About six o'clock in the morning, an irritation to make water came on, and returned at short intervals; the urine passed through the urethra mixed with blood; this went off in the course of the day.

23d. The unarmed bougie, which was used preparatory to introducing the armed one, passed into the bladder; the water came principally by the urethra, but with irritation and pain in the glans penis. He was restless in the fore part of the night,

with irritation to make water, and took an opiate, which relieved him.

27th. His urine passed by the rectum till the middle of the day, when a large slough came away by the penis, and immediately after half a pint of urine in a large stream. This slough was probably that separated from the wound in the bladder, which had fallen into the cavity. In four hours he made nearly the same quantity of water at one time.

No water passed by the rectum after the 27th, nor was it voided oftener than once in four or five hours ; so that in three weeks after the operation, the strictures in the urethra were removed, and the orifice in the bladder no longer gave a passage to the urine.

On the 31st he went out an airing for the first time, his strength and appetite being much improved.

August 2d. The unarmed bougie was passed to ascertain that the urethra continued free from stricture, and went more freely into the bladder than before.

12th. He was so well in every respect, that he went to the sea to bathe, for the benefit of his general health.

In this case the wound through the rectum continued open for three weeks, the time that was required to remove the obstruction, and healed up as soon as there was a free passage by the urethra. Had the strictures proved more obstinate, there is every reason to believe that the wound in the rectum would have remained open as long as it was necessary.

This gentleman I had an opportunity of hearing of four years after, and in that time he had found no uneasiness from the wound that had been made through the rectum, nor any difficulty in passing his water by the urethra.

## CASE II.

A gentleman aged thirty-two, when fifteen years old, had a gonorrhœa, which, from great inattention in the patient, and from the use of irritating injections, did not subside in the usual time. The irritation



extended itself along the urethra to the bladder, and brought on frequency of making water, attended with straining and occasional strangury.

These symptoms never went entirely away. They were at times more severe; at others less so; and there were intervals of months in which he only made water once in four or five hours. These however were rare; and in general the bladder could not retain more than three or four ounces of water at one time. There was this peculiarity in the case, that when the urine stopped, it produced a swelling behind the scrotum; when this was pressed, some mucus came away, and was followed by urine; these occasional stranguries sometimes lasted seven or eight hours before they went off. He had recourse to the common bougie, but none could be made to pass into the bladder. Afterwards the use of the caustic was attempted, but the surgeon had not confidence enough in that mode

of treatment to induce him to persevere in it, and, after a few unsuccessful trials, he left it off.

In August, 1799, his complaints became worse than before; every morning there was a stoppage of urine which lasted several hours, and was with difficulty relieved by opium; under these circumstances he came to London, and put himself under my care. As no bougie could be passed into the bladder, and there was reason to believe, from the account of the case, that a sack or bag had formed in the perinæum behind the stricture; the only chance of giving him relief apparent to me was by applying the caustic; and should the slough formed by the application at any time stop the small orifice of the stricture, an opening must be made into the bladder to relieve the symptoms of suppression, and admit of the prosecution of the cure.

Under these circumstances, I entered upon the treatment of the case, and had the

patient in lodgings near me, that every necessary attention might be given, which the symptoms required.

24th. The armed bougie was applied to a stricture three inches distant from the external orifice. The pain which this application produced was trifling, and it was not followed by any difficulty in the passing of his urine.

26th. The application was repeated to the same stricture.

28th. The first stricture was found, to have been destroyed by the second application, as the bougie now passed on to a second stricture at six inches, to which the armed bougie was applied.

30th. The application was repeated to this second stricture, and in the evening the patient was unable to make water, although there had been neither pain nor irritation. An opiate clyster, containing forty drops of tincture of opium, was thrown up in the evening; and a draught containing twenty drops was taken at twelve



o'clock at night, and repeated at two in the morning.

31st. At seven o'clock in the morning the bladder was found to be much distended, and he had made no water for sixteen hours; the irritation to make it was very great, and almost constant, and no instrument whatever could be made to pass into the bladder. It was proposed to puncture the bladder, without waiting till the parts were still more irritated, and the patient's strength and spirits more exhausted. This was considered not only as the means of giving relief to the present symptoms, but of enabling us afterwards to prosecute the cure. These reasons induced the patient to give his consent, and the operation was performed exactly in the same manner as in the former case. A pint and a half of urine was drawn off, and the instrument secured in the rectum.

He felt immediate ease, in an hour fell asleep, and passed the day perfectly tranquil. The urine did not constantly pass out

at the canula, although no plug was put into it; the first time of any coming away was at half past ten, three hours and a half after the operation; he made water again at four. His pulse was not quicker than natural, and he had only slight irritation in the urethra. The reason why the urine does not constantly issue through the canula is, that its orifice is situated at some distance from that part of the bladder where the ureters open, and its end projects into the cavity, like the waste pipe in a cistern, which can have nothing pass through it till the level of the water is raised above its orifice.

September 1st. He slept tolerably well during the night; passed his urine through the canula every four or five hours, in the quantity of nearly four ounces each time, and he had little or no irritation in the bladder or urethra.

Towards the afternoon the canula was obstructed by the mucus from the bladder, which was removed by passing a wire

through it; the urine however did not flow readily till he got upon his knees, in which posture half a pint came away, and a few drops by the urethra with exquisite pain. In the evening he had a paroxysm of fever, or fit of an ague, attended by headache. A pint of warm water was thrown up as a clyster, which brought away a great deal of wind, and a copious stool. He was afterwards materially relieved; he took fifteen drops of tincture of opium, and had a quiet night.

2d. He was easy during the day, and had very little pain in the urethra. The urine did not pass readily by the tube, which occasioned his having a restless night.

3d. The armed bougie was applied to the stricture six inches distant from the external orifice; it gave less pain than during the former applications.

In the afternoon the canula was found to give more uneasiness from not allowing the urine to pass; and as it had been in the



bladder three days and a half, it was judged advisable to remove it. This gave great relief; the urine however, did not afterwards come through the wound, but by the urethra. He took fifteen drops of tincture of opium, and passed a restless night: he made water four times before morning by the urethra, nearly four ounces each time.

4th. At six in the morning he took an opening medicine, which operated in four hours, and relieved his uneasiness; he made water during the day every three or four hours, and passed a quiet night, sleeping three hours at a time.

5th. The armed bougie was applied; he had no uneasiness during the day, and passed a quiet night.

7th. The stricture at six inches was found to be destroyed, and another was met with at seven inches, to which the armed bougie was applied. In the afternoon he made his water in a better stream.

9th. The armed bougie was again applied to the stricture at seven inches; this

brought on a swelling in the perinæum, which lasted several days, but did not impede the passing of the urine, nor did he afterwards experience an attack of strangury, although the last stricture was not destroyed in three months, and the armed bougie was applied every second or third day during the whole of that time.

He was now able to make water without straining; and his general health, as well as other reasons, made it proper for him to go into the country, which I thought might be attended with advantage, and enable him to return in the spring in a better state for prosecuting the cure.

The symptoms of his complaint gained so little upon him, that he did not return as he intended, and remained in the country till the 1st of October, 1802. At this time he again put himself under my care, with all his complaints very much increased, particularly the straining to make water, which was constant and excessive. Whenever such attempts were made, it appeared

to himself that there was some mucus collected behind the stricture too thick to pass, and that the great straining was necessary to force it through the small aperture.

Under the use of the armed bougie all his distresses were evidently increased without the smallest advance being made, the parts seeming to have become too hard for the caustic to act upon them to any purpose. With this belief, after having persevered with the caustic till the beginning of December, I got a strong iron sound made tapering at the end to a small point, and endeavoured, with the fore finger in the rectum, to direct its point into the stricture. The application thus made occasioned no pain at the time, and gave relief for four or five hours afterwards, the urine passing with less obstruction, but the next day there was more mucus collected behind the stricture, and more difficulty and straining in parting with it. This circumstance made me use the instrument only every third day; there was always the same degree of relief for two



or three hours after it, but the complaint was evidently no better. The patient had a great dread of my giving his case up as hopeless and leaving him; this anxiety was so great, that I durst not abstain altogether from the present plan.

On the 17th of January 1803 he sent for me in the morning, having had a very bad night, to shew me a black part at the orifice of the urethra. It looked like a little extravasation of blood immediately behind the internal membrane, and did not extend to any part of the glans penis; there was no swelling in the perinæum. This shewed mortification was taking place; the perinæum, which had been always hard and full, was rather more so, but not to any great degree.

Next day the black appearance had spread a little, and there was a livid spot upon one side of the glans, the effect of mortification; the perinæum was more enlarged, but not sufficiently so to induce me to propose any operation; his urine passed with less pain

but in small quantities, and required an effort to bring it away.

On the 19th an œdematous appearance began to take place at an early hour in the morning over the body of the penis, and the perinæum was more swelled. This proved that the urine had escaped into the cellular membrane; and openings through the skin became necessary to prevent an extension of the mischief to the surrounding parts. I made a puncture on the left side in the perinæum an inch deep with that view, and three on different parts of the penis, out of which the urine came by drops from the neighbouring cellular membrane. One of the punctures bled very freely, and the pulsation shewed an arterial branch had been wounded but not completely divided; I therefore passed a tenaculum under it, and cut it through. Pressure was then made by the finger and thumb of an assistant, which readily restrained the bleeding, and it stopt intirely in about three quarters of an hour after the artery was divided.

The penis, which was very much swollen, and of a very dark colour, towards evening subsided a little, and lost a good deal of that dark appearance which it had in the forenoon, becoming more of a red colour. He complained of a considerable degree of pain in the left side of the body of the penis. He attempted to make water at 4 o'clock in the afternoon, but was unable to pass any until the parts had been fomented with brandy and water, after which he passed near a tea-cup full by the urethra, and a few drops came through the puncture made in the perinæum; at the same time he had a purging stool, with great uneasiness in his bowels. His pulse was frequent, his tongue clean; he complained of great thirst; was very restless and uneasy, and occasionally in great pain in the penis and along the perinæum towards the bladder. He took 40 drops of tincture of opium at bed time; his drink was brandy and water.

Jan. 20.—He retained his urine at one



time for three<sup>d</sup> hours, but in general passed ~~it~~ every hour during the night, more freely than for some days; the passing of it however was attended with a greater degree of pain, and there was an excessively violent pain in the region of the bladder after the water had passed;—his purging continued very troublesome.

During the day he made water every three quarters of an hour with extreme difficulty and great pain in the urethra and bladder; at 10 P. M. the water stopt from passing either by the urethra or the puncture in the perinæum, which gave rise to the most violent irritation in the bladder.

In this state the patient requested to have the same operation performed which had formerly relieved him, as the pain was excessive, and not to be borne. The bladder was punctured through the rectum in the same manner as before, only the tube was cylindrical instead of being flattened, to prevent it from being choaked up by the mucus, as in the former operation; a pint

and a half of water was drawn off, which gave him considerable relief. The urine flowed readily through the canula, without his knowledge.

The penis had still the same appearance. He took 30 drops of tincture of opium at 11 o'clock.

Jan. 21.—Had a better night than for the preceding week, although not free from pain and uneasiness in the bladder, rectum, and urethra ; which appeared to be much increased by a constant purging, with tenesmus. The evacuations were now tinged with blood, and passed very readily by the side of the canula. A small vesication appeared on the body of the penis, which was still considerably swollen, and of a brownish-red colour.

Pulse smaller than yesterday ; tongue clean. He could eat nothing, and the only drink he could take was brandy and water.

Jan. 22.—Much the same as the day before ; the purging extremely troublesome ;

took one ounce of cretaceous mixture with 30 drops of tincture of opium every two hours, which made him very drowsy, but had little or no effect in stopping the purging. The canula felt very firm within him, and gave no pain or uneasiness whatever.

Jan. 23.—Slept a good deal in the night, but complained very much of a pain in his throat; which was a little inflamed, and also of some difficulty in swallowing; had likewise a very disagreeable taste in his mouth, and occasional disposition to vomit. Saline draughts were given, but with little benefit.

Jan. 24.—The pain in his throat considerably worse to day; his purging likewise no better, although he took 120 drops of tincture of opium in the night. Every time he slept he was seized with a slight convulsion, which awoke him, and he complained of pain in the bladder, probably from the motion of the canula. Pulse small and frequent, and very much accelerated for a



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few minutes after each spasm. He lost relish for all kinds of drink, which seemed to have a most disagreeable taste.

Jan. 25th. Took two grains of extract of opium every two hours during the night; was more quiet, but said that was owing to the pain which he suffered in his throat when he spoke, and that he slept very little. A considerable degree of swelling came on in the perinæum, and a small quantity of urine could be pressed out of the puncture there.

The spasms were very violent in the night, and the canula felt loose, which made it proper to remove it. From the appearance of the canula it had entered the bladder very obliquely, and two inches of its anterior, and one inch and a half of its posterior surface, had been contained in the cavity. Some urine got into the urethra soon after the canula was withdrawn, which occasioned a good deal of pain.

Jan. 26.—Some urine passed by the rectum, and some by the perinæum, which

brought on excruciating pain. The spasms became very distressing during the night, but towards morning he fell suddenly asleep and slept for a quarter of an hour, and when he awoke had hiccup, but no general convulsion; his throat was better; he could drink wine and water, without its occasioning much pain.

A small slough was removed from the orifice in the perinæum, and another from the upper part of the penis; but the urine did not appear to pass more readily. Pulse extremely frequent and small.

Jan. 27.—Had hiccup very often during the night, and appeared to be in extreme pain about the perinæum and bladder.—Took opium in considerable quantities both by the mouth and by clyster, but with very little good effect, and he imagined it brought on the hiccup.

Jan. 28.—Pulse not to be felt at the wrist, except while he was attacked by the hiccup, or after taking some wine or brandy and water; he complained of violent heat and

pain about his stomach, but suffered little from that in the perinæum. Hiccup more frequent and violent. The discharge from the bladder appeared to be wholly pus.

Jan. 29.—Continued much the same as yesterday; slept a good deal, which relieved the heat and pain at his stomach, now his only complaint. Next morning he died.

Upon examining the body after death, the kidneys were found in a natural state, but the ureters enlarged to three times their natural size.

The coats of the bladder were about half an inch in thickness, and appeared unable to contract so as to diminish the cavity beyond what would contain three ounces of water; this quantity of fluid was found in it, and was a mixture of pus and urine. The whole internal surface was furred over with a layer of coagulable lymph in consequence of inflammation; this extended itself into the urethra as far as the stricture.

The muscular coat of the bladder was not



fasciculated, but the interstices between the fibres were filled up by a soft whitish substance, apparently similar to that met with in the tongue.

The orifice made in puncturing the bladder, was not in the middle line of the bladder, but rather to the left side,  $\frac{2}{8}$  of an inch from the left ureter, and half an inch from the neck of the bladder, when in its contracted state. The most careful examination could not detect any vestige of the former puncture.

The prostate gland was nearly in a natural state. The urethra for an inch in length from the verumontanum was unusually wide, and then appeared to terminate altogether, the parts having put on a cartilaginous appearance, and being very much thickened. After a careful examination, a small passage was traced, leading forwards into a cavity or small abscess, which could only be seen by cutting open the indurated part; this new-formed cavity communicated at its lower surface with the

urethra, which was in a state of mortification through its whole extent to the external orifice.

The urine for many years must have escaped with great difficulty through this stricture, which had become so firm in its texture, into the cavity above mentioned, from whence it passed out of the orifice which led into the urethra.

In this case the parts appear to have been too much diseased to receive relief from any mode of treatment, but an opening being made through the perinæum into the bladder; and in all probability the consequent inflammation upon the bladder would have destroyed the patient.

### CASE III.

A gentleman, forty years of age, had a gonorrhœa in the year 1777, for the cure of which he used an injection; this irritated the urethra so much, as to bring on a suppression of urine almost immediately after its application, which lasted three days, and

then went off. He continued tolerably well till 1790, when the urethra had become so much contracted, as to make the passing his water a very tedious and difficult operation; and he believes that his bladder was never intirely emptied. By the use of bougies the passage was dilated so as to allow of a tolerable stream of urine, but during their use he had several partial suppressions. In 1796 he was again obliged to return to the use of bougies, but was unable to pass one of the smallest size into the bladder; and from that time suffered severely from occasional suppressions, great discharge of mucus, and a constant gleet; his urine, under the most favourable circumstances, only passing in drops.

In November 1799, he put himself under my care. The armed bougie was applied to a stricture five inches and a half from the external orifice; this application was repeated seven times, without any irritation being brought on, or an increased difficulty in voiding the urine. This stricture



gave way, and the armed bougie was applied to a second at seven inches. The first and second applications to this stricture were attended by no particular symptoms; but after the third, which was on the 24th of November, a complete suppression came on; this lasted eight hours, when, in consequence of having taken fifty drops of tincture of opium by the mouth, and the same quantity in a starch clyster, he made an ounce and a half of water. In the course of the night the pain and uneasiness increased, and the fifty drops of tincture of opium were repeated.

25th.—He made about two ounces of water. A clyster of warm water was thrown up, which relieved his uneasiness, and he passed the night with tolerable ease, and made half a pint of water.

26th and 27th.—He continued in a state of great irritation, occasionally passing small quantities of water and mucus, but never enough at any one time to relieve the bladder.

28th.—The bladder was very much distended, and distinctly felt above the pubis; its outline was even conspicuous to the eye. In this state I proposed performing the operation of puncturing the bladder through the rectum, which was immediately assented to. The operation was performed in the manner already described; the cylindrical canula was used. Sixteen ounces and a half of urine were discharged through the canula: the patient felt no pain in the operation any where but in the glans penis, and that was momentary; it however returned afterwards frequently in the same part. The canula was left in, and he felt perfectly easy, all his distresses having been removed. The urine passed away continually without any effort, or even the patient's knowledge. He had a tolerably quiet night, and slept the latter part of it.

29th.—He complained of distention of the bowels from wind. In the afternoon the urine came away at intervals of half an hour; the verge of the fundament was

excoriated by the urine passing through it. He had a very good night till one o'clock, when, attempting to pass some wind downwards, the canula was forced out of the bladder, which made him uneasy and restless the remaining part of the night.

30th.—At nine o'clock in the morning the canula was withdrawn from the rectum; and in the course of the day the urine passed readily through the rectum.

31st.—The use of the caustic was resumed, the water passing at intervals by the rectum, and a few drops by the urethra; there was an unusual flatulence in the bowels, and great languor and debility.

These symptoms in a few days subsided.

Dec. 5th.—The urine continued to pass freely through the orifice in the rectum.

Jan. 6th. 1800.—Although the last stricture was not yet destroyed, all the distressing symptoms subsided, and the patient was able to retain his water for six or eight hours at a time.

When the urethra was perfectly quiet,



the water came with tolerable freedom through that canal ; and when it was disturbed by the application of the armed bougie, the urine found a passage by the orifice through the rectum, so that I was enabled to prosecute the cure.

About the middle of February the use of the caustic brought on irritation, and the urine only passed by the rectum, attended with straining and difficulty ; the urine was so acrid that it inflamed the internal membrane ; the stools passed with difficulty, and were not larger in diameter than straws. When this attack of irritation subsided the parts recovered to a certain degree, but remained in a very disturbed state ; the urine passed always with difficulty, the bladder never was completely empty, the rectum was always heated, and the motions were voided with straining, and came away in a small form. The use of the caustic did not make any progress upon the last stricture, nor did it palliate the symptoms. His sleep was

disturbed; he had no regular paroxysm of fever, but his health was much impaired.

In June Mr. Cline was consulted, and his opinion was that the gut was become diseased, and the prostate gland much enlarged, and he saw no chance of his recovery. He was desired to go into the country, inject olive oil up the rectum, as neither opiate clysters, nor those of warm water, gave ease; and to use an artificial tepid salt bath every other day.

This plan was adopted, and he continued in nearly the same state, till November, when attacks of fever, preceded by cold fits, came on generally once or twice a week, increasing in violence and duration. His bladder could not retain the water longer than two hours, and rarely so long. In February, March, and April, no water came by the rectum, but the irritation and contraction of the gut continued.

In this state he returned to London on the 8th of May, 1801, when the use of the

caustic was resumed to the last stricture, and the symptoms were evidently less severe after it had been employed two or three times, which encouraged me to proceed. The ninth application was attended with a violent paroxysm of fever, which affected his constitution very severely, and brought on symptoms of great irritation in the bladder, and suppression of urine till it came away by the rectum. This led me to give up the use of the caustic, as the constitution was unequal to bear a repetition of these attacks. I therefore endeavoured to pass a catheter into the bladder, and was fortunate enough, on the 22d of June, to succeed with a small gum elastic one; this was retained in the bladder for ten days, and then withdrawn and replaced. In this way his bladder recovered itself; none of the water passed through the rectum, which had been occasionally the case; his stools became larger in size, were passed without any irritation; and there were no returns of the paroxysms of fever. A swelled testicle



came on, but subsided without my discontinuing the use of the catheter in the bladder.

On the 26th of August a small calculous concretion came away from the neck of the bladder, entangled in the eye of the catheter.

In September, a larger sized instrument was passed, and not left in; but the water was drawn off twice in the day, none coming but through the instrument. The catheter however passed with more ease, and in the beginning of October the urine was voided in the usual way, and its remaining eight or ten hours in the bladder gave no uneasiness.

On the 14th of October another but smaller calculus was brought away, which left the parts tender; he could now pass the catheter himself, and empty the bladder.

On the 20th of October he was able to pass the largest sized catheter with great ease, there remaining only an irregularity in the lower part of the passage; and his urine flowed in a full stream. He was in other respects in perfect health, and was

directed to pass the catheter as a means of bringing that part of the urethra to a more natural state. He went into the country, and was directed to pass the catheter once every other day for a month, and then only twice a week.

In February, 1802, he wrote to me that he had continued the use of the catheter twice a week ; and that during the extreme cold weather, he found it painful to introduce the instrument, but always succeeded in getting it in. Immediately before a rapid thaw there was a violent attack of irritation on the neck of the bladder ; the urine was very offensive to the smell, and loaded with mucus ; the straining to pass the urine was very urgent, and towards the close there was a discharge of thin fluid from the anus in considerable quantity, \*

\* This fluid was not urine but a secretion from the glands in the lower part of the rectum, and has occurred in other cases of irritation of these parts, two of which have come under my observation. While fluid and collected upon a cloth, it appears exactly like water, but when the cloth is dried it is rendered stiff, the thicker part of the discharge being deposited on it.

and his stools when figured were very small in their form, not exceeding the size of a common quill. These symptoms went off under the use of saline draughts with Dover's powder, and did not return.

As the weather became mild he could pass the instrument with more ease; his water came away in a larger stream and greater quantity, and the inclination was less frequent; the stools also became larger; his general health was never better, and he had grown fat.

On the 20th of May he informed me that he passed the instrument once in ten days; his urine flowed in a tolerable stream, but he was unable to throw it from him with any force; he made water only once during the night; his health was good, and he took a great deal of exercise. With regard to the puncture in the rectum, he had almost forgot that it ever had been made, except there was mucus in the neck of the bladder, at which times the stools were contracted in size; but at other times they were very well.



In July he continued in good health, and went to a contested election, in which he took a warm interest. On his return in the evening with some ladies, and no other gentleman, the post boys of the two chaises being both very drunk, he knocked the boy off the box and drove himself. The road was very rough, and the carriage with the drunken driver preceded his own, almost on a gallop, so that he was obliged to drive very hard, and was much shaken. In a few days an inflammation came on the neck of the bladder, and a swelling in perinæo, for which he kept his bed several days. As he was from home, and desirous of being there, he set off as soon as he was able, and in the journey caught cold from walking in the rain up a steep hill without a great coat. He had not been at home a week before he was taken ill, and during that time again got wet going over his farm; his complaint was supposed to be a suppression of bile. He lost 12 ounces of blood, and had three emetics, none of which were of service; a

fever came on every evening. He was four days in this state when the fever increased; he jumped up in the bed, complained of his back, neck, and throat, became delirious, soon after speechless, appeared to be in great agony for want of breath, and expired.

#### CASE IV.

A gentleman, 52 years of age, had strictures in the urethra for 20 years, and about 15 years ago began the use of bougies; at that time one of the smallest size could not be passed into the bladder. About five years ago, he was, for a period of five months, subject to partial suppressions of urine, which he used to relieve by taking a purgative medicine, and, after it had operated, passing a small sized bougie down to the stricture, and leaving it there till the inclination to make water came on; then, upon withdrawing the bougie, the water followed it. From this period he has made use of no bougie, although his stream of urine has been gradually decreasing in size; and

latterly he could only pass it in drops. These were the only symptoms produced by the stricture; he had generally made water twice in the twenty-four hours, and enjoyed a good state of health.

In September 1802, finding his complaints increase upon him, he consulted a surgeon, who advised the use of the armed bougie. This was applied on the 24th of September (by means of the canula) to a stricture at about four inches from the external orifice; the immediate application of the caustic to the stricture gave him little pain, but he suffered much from the passing of the canula. He made water as well as usual after the application of the caustic, and continued well the next day. On the 26th, at one o'clock, in the morning, he found himself unable to make water; he took a dose of physic, was fomented, and went into the warm bath, without relief. On the 27th, at nine o'clock in the morning, I was sent for, when I saw him, and attempted to pass a catheter, which went



beyond the stricture at four inches, but could not be introduced into the bladder. He was therefore directed to take 20 drops of tincture of opium every two hours.

At two o'clock in the afternoon he had taken 120 drops of tincture of opium without passing any urine, and he complained of pain and fullness in the region of the bladder; the desire to make water came on more frequently than in the morning. I therefore determined to puncture the bladder, and performed the operation through the rectum, in the same manner as in the former cases, and drew off about a quart of urine, which instantly relieved him. The operation gave no pain. The canula was kept in the rectum by two pieces of tape passed round each thigh and secured in front to a handkerchief fastened round the body. A cork was put in the canula, to prevent the water from coming away spontaneously.

The cork was taken out of the canula three hours after the operation, but no

Water was evacuated, nor had he any inclination to make water; the pulse was regular, and 90 beats in a minute; he complained of thirst, and of wind in his bowels. On the 28th the cork was three times taken out of the canula, at different times, but no water followed, nor had he the least inclination to void any. He had a great desire to go to stool, and said the purgative medicine he took on the 26th had not yet operated. The end of the canula was found to have been forced about an inch out of the rectum; a bougie was introduced into the canula which could not be passed beyond its extremity, and when withdrawn was found to be covered with fæces. The canula was therefore removed from the rectum, as it had escaped from the bladder; this was at nine o'clock in the morning, so that the canula did not remain in the puncture 19 hours. In a few minutes he had a copious evacuation by stool, followed by some blood, but no water passed either by the rectum or the urethra. The patient was informed, that in all

probability the next time he made water it would be by the natural canal; for, as in his particular case, the suppression had taken place from a spasmodic affection of the stricture next to the bladder, brought on by inflammation on that nearest to the external orifice, the bladder having been relieved by the puncture, and the inflammation having subsided, there was no reason why he should not make water better than before. At four o'clock in the afternoon he had a desire to make water, for the first time since the operation, and on standing up, the urine flowed from the urethra in a fuller stream than it had done for many months. He passed about a pint. The first time he made water was twenty-six hours after the bladder had been punctured, and afterwards he voided from two to six ounces every hour and a half; not a drop came by the rectum. The first quantity of urine he voided was tinged with blood, but the subsequent quantities were not so.

The 29th. Slept tolerably well last



night; made water by the urethra very freely, every two or three hours. Pulse regular, and tongue clean.

30th. When he made water, or moved suddenly from a horizontal to an erect posture, he found some air escape by the urethra.

31st. Had a stool this morning (without any blood in it, as in the former one) in consequence of some castor oil that he took, when going to bed last night.

October 1st. Made water when he went into bed last night at ten o'clock, and did not make it again till nine o'clock this morning. Complains of a pain in the small of his back, more especially when he moves about in bed.

3d. Has passed no air by the urethra since the evening before the last. In other respects the same.

As he made water nearly as well as he had done for some years, it was not thought prudent to do more than occasionally pass a bougie; but when this was attempted about a fortnight after the operation, it brought

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on a violent ague, which lasted altogether nearly 12 hours. This circumstance led me to advise that nothing should be done till the symptoms required it, and nothing has since occurred to make it necessary. September 1803, he is in every respect in better health than he was before the attack, which made it necessary to puncture the bladder.

From the preceding cases we are enabled to draw the following conclusions respecting the operation of puncturing the bladder; that when the puncture is made above the pubis, the canula which incloses the trochar should not be removed till the surrounding parts have been consolidated by inflammation, so as to prevent the urine, in its passage out, from insinuating itself into the neighbouring parts, for wherever stale urine lodges, mortification takes place.\*

\* Where the urine has only been allowed to remain a few hours in a healthy bladder, before it escapes into the cellular membrane, no such effect takes place, and the parts through which it passes unite and heal as readily as when disturbed by any other cause.

Any advantage, therefore, arising from a more flexible instrument remaining in the bladder, is more than counterbalanced by its not filling compleatly the aperture in the coats of the bladder, and allowing the urine to escape by its side into the cellular membrane.

That wounding the bladder, when in an highly inflamed and irritated state, does not increase that inflammation; and that when these symptoms are kept up by the over distention of that viscus, they are instantly relieved by letting out the water. That a contracted state of the bladder, which is a common effect of any long continued irritation upon its internal membrane, is not only not increased by the operation, but is almost immediately relieved. The cause of the irritation is no sooner taken off, and the muscular coat allowed to remain in a tranquil state, than its fibres begin to recover their relaxing power, and admit of being stretched to a much greater extent than before the bladder was punctured.



The particular part of the bladder wounded in this operation was known in only one of the foregoing cases, and I am now enabled to state that it corresponds very nearly with the part wounded in the unfortunate case detailed at page 236 of the present volume, in which the puncture was made by the same instrument, and in exactly the same manner; this point is therefore ascertained with sufficient accuracy for any practical purpose. I omitted purposely, in the account of the dissection, to state the situation of the puncture, as I thought it would come more properly into this place. In that case the trochar passed obliquely upward from the rectum into the bladder; it wounded the gut exactly two inches from the verge of the anus, and entered the bladder in the triangular space between the prostate gland and the openings of the two ureters,  $\frac{1}{2}$  an inch distant from the gland,  $\frac{3}{8}$  of an inch from the right ureter, and  $\frac{6}{8}$  from the left.

From these cases it is evident, that the time the canula is retained in the rectum is of much less consequence than has been generally imagined; in some of them it was kept in for several days, and in one less than 19 hours. No mischief was found to ensue from the pressure of the tube when retained, nor did any urine, when the tube was early withdrawn, escape into the cellular membrane; the time may therefore be varied according to the circumstances of the case. When the operation is performed to relieve a patient who labours under a spasmodic affection of the urethra, as in the last mentioned case, the tube had better be immediately withdrawn; but in cases of permanent stricture, where the smallest instrument cannot be passed along the urethra, it will be prudent to leave in the canula forty-eight hours, to make the resistance to the urine afterwards in passing through that orifice as small as possible.

The advantages of this operation beyond

the puncture, above the pubes, or in perinæo, in cases of stricture in the urethra, appear to me so very obvious, as to prevent my making any further observations on the subject.



## CHAPTER XIII.

OF THE TREATMENT OF STRICTURES IN THE  
ŒSOPHAGUS.

IN the former volume I mentioned, that the Œsophagus was liable to a contraction of its internal membrane, similarly to the urethra, forming stricture, and that in all the cases I had met with, this disease occurred immediately behind the cartilages of the larynx.

A more extensive observation on this subject enables me to state, that although any part of the Œsophagus may be liable to similar contractions, there is this one spot immediately behind the cricoid cartilage, where the fauces may be said to terminate, and the Œsophagus begin, in which such a contraction is so often met with, that I must consider it as more liable to become diseased than the rest of the canal;

and it is to strictures in this particular situation that the present observations will be wholly confined, for those which are nearer the stomach are beyond the reach of accurate examination, and therefore cannot so readily be relieved by any surgical operation.

This disease consists of a transverse fold of the internal membrane filling up in different degrees the aperture of the canal, and will be more readily understood by an examination of the annexed engraving, than any verbal description. To see it delineated appears in some measure necessary, to force upon the mind a belief that the area of the œsophagus can be so much diminished, while there is so little thickening of the surrounding parts, and so very small an extent of the tube occupied by the disease.

As it is these fortunate circumstances, and its situation, which render the stricture capable of being relieved by the use of the bougie, either in its simple state, or armed with

caustic, it is necessary that they should be clearly understood.

This part of the œsophagus is liable to two other diseases which produce nearly the same symptoms, and therefore, when the cases are not accurately examined, may be mistaken for stricture.

One of these is a thickening of the coats of the œsophagus, which extends to the surrounding parts, and in the end generally becomes cancerous, or, in other words, an incurable disease ; the other is an ulcer on the lining of the œsophagus : this last is commonly a little below the seat of stricture, and is upon the posterior part which lies on the vertebræ of the neck. Both of these produce a difficulty in swallowing, and in their early stages are only to be distinguished from stricture by an examination with the bougie ; when the disease is more advanced, the other symptoms which arise sufficiently explain the nature of the disease.

Strictures appear to be a disease belonging



to the earlier periods of life, while the other two are more commonly met with at an advanced age.

Passing a bougie in cases of stricture in the œsophagus requires considerable dexterity, as well as in those of the urethra, and I have found that it is more easily done while the tongue is brought forwards out of the mouth, than in any other state of the parts. I was led to adopt this mode in consequence of being consulted by a lady who had had a narrow swallow from her infancy, which gradually increased upon her, till in an advanced period of her life she could hardly swallow at all. She lived at a small distance from London, and a surgeon in the neighbourhood, who was consulted, gave her relief by passing a bougie. This operation, it was found by experience, was required to be performed once a week, and he called upon her regularly for that purpose. It happened however unfortunately that she went upon a visit, and did not return for six months; when she came home the

surgeon was unable to pass the bougie; this created a great alarm, and her swallowing having also become more difficult, she was led to believe herself in extreme danger. In this state she called upon me. Having heard all the circumstances, I considered in what way I could bring all these very moveable parts into a state as nearly fixed as they admitted of. After several trials, I found that by making the patient push out the tongue, and employ her whole attention in endeavouring to thrust it out still further, and bring it more over the chin, I not only compleatly occupied her attention, and prevented her from counteracting my operation, but also brought the orifice of the stricture as nearly as possible in a line with the middle of the pharynx, so as to be readily entered by the bougie; and in this way I succeeded in passing it. She had, immediately after it was passed a chillness and regular paroxysm of fever; and it was 14 days before she completely recovered from its effects; her swallowing, however, was

improved. I saw her two or three times at the intervals of ten or fourteen days, and passed the bougie in the same way. She was 59 years of age, and so extremely irritable and emaciated, that I did not venture, in a disease which had been allowed to go to such great length, to advise the use of the caustic, and I heard some months after that she had been taken suddenly with a total want of power of swallowing, and died.

I have ever since, in all cases of stricture in the œsophagus, taken these precautions in passing the bougie, and have found them attended with considerable advantage. For although it certainly may be passed under other circumstances, it is an object of no small importance not to irritate the parts, which are always in an inflamed state; and very frequently a failure in the first attempt produces so much disturbance, as to preclude the smallest probability of success in a second trial.

When a bougie is passed with a view to determine the nature of the complaint, and



and it passes down to the distance of eight inches, measuring from the cutting edge of the front teeth in the upper jaw, the surgeon may be satisfied that it has gone beyond the usual seat of stricture; and if it is brought back without any resistance, he may conclude, that the aperture of the œsophagus considerably exceeds the size of the bougie which had been used. But if the bougie stops at the distance of 6 and  $\frac{1}{2}$  inches, or even lower, he is to retain it there with an uniform steady pressure for half a minute, so as to receive on its point an impression of the surface to which it was opposed. If the end of the bougie retains its natural form, or nearly so, and there is an indentation like the mark of a chord on its side, whether all round or only partially, he may decide that the disease is a stricture; but if, on the other hand, the bougie passes without any difficulty to the distance of  $7\frac{1}{2}$  inches, and when brought back the point has an irregular jagged surface, it is

equally clear that the disease is an ulcer on the posterior surface of the oesophagus.

Where strictures of the oesophagus have been of long continuance, ulceration takes place on the side of the stricture next the stomach. This may arise from different causes which are not at present ascertained; among the number may be the efforts in retching, which frequently come on, and must strain those parts already deprived of their natural actions, and of the benefit of the secretions by which they are lubricated in a healthy state. When such ulceration takes place, the characters of the original disease are lost; and when the ulceration has extended upwards, the stricture itself is destroyed. A bougie passed under such circumstances will, in general, have its point entangled in the ulcer; and when so skillfully directed, as to go down into the oesophagus, it will meet with a difficulty while it is passing from the ulcerated termination of the sound oesophagus, and again where

it leaves the ulcer and re-enters the sound Œsophagus below; and in its return there will be two parts at which a resistance is felt. This may mislead the most accurate observer, and create a belief in his mind that there are two strictures, whereas in fact there is none, but an ulcer of some extent, and a power of contraction in the upper and lower extremities of the Œsophagus, where they terminate in the ulcer.

Since the former volume was published, I have had opportunities of seeing all the appearances above described. I have also seen several cases of true stricture in its early stage, before ulceration had taken place. In four instances in which I have, at different times, been consulted, the patients were ladies of a delicate constitution; they found a difficulty in swallowing before they were 17 years of age; this increased upon them, and at the age of 40 became extremely distressing. These ladies all lived at a distance from London; and in a disease of so much danger, I did not think myself justified in



taking charge of the treatment, unless the patients were immediately under my own eye, and was therefore prevented from making use of the means for their relief, which I should have otherwise adopted.

The following cases of this disease are the only ones I can add to those already published, they having been immediately under my own care. Those attended with ulceration do not belong to the present enquiry; for whether, in the first instance, they were, or were not strictures, is immaterial. The moment ulceration takes place, the disease has gone beyond the reach of the modes of treatment which are the subject of the present work.

### CASE I.

CASE OF STRICTURE IN THE ŒSOPHAGUS  
RELIEVED BY THE USE OF THE COMMON  
BOUGIE.

A lady, 19 years of age, found a difficulty in swallowing, which she could not in

any way account for. This gradually increased till she was unable to swallow solid food, and any attempt of that kind brought on a considerable degree of irritation; she lost her health, became thin, and extremely nervous. The medicines that were prescribed, with a view to restore her general health, did not produce the desired effect, and in March 1802 she came to London to put herself under my care. At this time she was 22 years of age. On examining the Œsophagus by a bougie, a stricture was met with directly behind the cricoid cartilage, which a bougie of the smallest size could not pass through. The attempt brought on irritation, attended with feverish heat, and increased all her nervous affections. A second attempt was made two days after, and the small bougie passed through, but gave a good deal of uneasiness; the third and fourth attempt failed. At this period she caught cold, and was much indisposed for several days; I also understood that her mind was a good deal agitated by some

circumstances respecting her family: I therefore advised her to return into the country, and recover her general health, and when in a more favourable state to put herself again under my care.

On the 10th of July she returned to town, her general health improved, and her mind at ease, but she thought her swallowing much worse; her alarm at the passing of a bougie was gone off, and she was eager to have it done. A trial was made with the same bougie, and it passed beyond the stricture; during the day her swallowing was easier, and next day the bougie passed with more ease. On the following day the stricture admitted one of a larger size, and in three days the size was again increased; she could swallow solids with ease, both fish and fowl, and daily improved in her looks, evidently gaining flesh.

On the 20th of July she was so well that I allowed her to go into the country, and requested to see her on the 14th of September, to ascertain whether there was



any disposition in the parts again to contract. She returned at that time, and no contraction had taken place; I advised that a bougie should be passed once a week, as a matter of precaution.

## CASE II.

A CASE OF STRICTURE IN THE ŒSOPHAGUS  
RELIEVED BY THE USE OF THE CAUSTIC.

Sarah Wooden, 27 years of age, a married woman, six years ago swallowed a plumb stone, which stuck in her throat, but which, by the effort of retching to vomit, was brought up. From that time she has had a difficulty in swallowing, which for the last three years has so much increased, that she has been unable to swallow any thing larger than a pea, and has subsisted chiefly on fluids. Five months ago she lay in of her second child, which is still at the breast, and she thinks herself worse since that time. June 27, 1803, I first saw her. I passed a small bougie, which went down beyond

the stricture which was behind the cricoid cartilage; this was attended with uneasiness. 29th, a bougie a size larger was attempted to be passed, but stopped at the stricture. July 1st, a bougie armed with caustic was made use of; while applied it gave a burning pain, which lasted a few minutes and then went off. Next day her swallowing was improved. On the 6th the application of the caustic was repeated, and left pain and heat in the throat for several hours. On the 6th her throat continued so sore that nothing was done. On the 14th a large unarmed bougie was passed with ease, and her swallowing was much improved. The common bougie was passed every other day, and on the 30th the pain had entirely gone off, and her swallowing was so free that she went into the country. She was desired to let the surgeon she employed pass the bougie once a week for some time to prevent a return of the contraction.

## CASE III.

CASE OF STRICTURE IN THE ŒSOPHAGUS  
RELIEVED BY THE USE OF THE CAUSTIC.

A gentleman, 54 years of age, consulted me in June 1803, on account of a difficulty in swallowing. He said that two years before he had had an attack of spasm in the stomach, which lasted for ten minutes, and left him extremely languid. In the four following days he had two similar attacks, and at the end of three months a fourth attack. Ever since he has been in what is called a nervous state, his throat being also dry and uncomfortable. In the beginning of April last he found an unusual difficulty in swallowing, which gradually increased till the time at which I was consulted. He then could not swallow solids, and with difficulty got down bread boiled in milk. On the 2d of June I passed a small bougie, which was stopped by a stricture immediately behind the cricoid cartilage. To this obstruction I



applied the armed bougie ; the pain was not severe, and soon went off. The application was repeated seven or eight times, at intervals of one or two days, without producing great uneasiness, and his swallowing was so much improved that he readily got down solid food, and a common bougie passed with tolerable ease.

In this state the parts were left to themselves.

#### CASE IV.

A CASE OF STRICTURE IN THE ŒSOPHAGUS  
RELIEVED BY THE USE OF THE CAUSTIC.

A lady, 24 years of age, had a stricture in the Œsophagus for several years, was particularly susceptible of cold, and when exposed to a draft of air her swallowing was rendered more difficult, and spasmodic affections took place ; at these times she lost her voice.

In the year 1800 she consulted me, and at that time was only able to swallow fluids.

I proposed the use of the caustic, which was readily assented to. The first application gave a good deal of pain, but it was not of long continuance, and the swallowing was not at all impeded by its effect. It was repeated after an interval of one day, and she thought she swallowed better after the second application; this encouraged me to proceed, and after the fourth application she had less irritation, and could swallow solids. The fifth application brought on a good deal of inflammation, so as to deprive her of her voice for two days; when this subsided she found herself much improved in her general health, and able to swallow so well that I thought it prudent not to do more at that time, but proposed, should the symptoms recur, to resume the use of the caustic.

I have had an opportunity of hearing frequently of this lady since that time, and for three years she has continued equally well as when she left town.

## CASE V.

A CASE OF STRICTURE IN THE ŒSOPHAGUS,  
WHICH TERMINATED FATALLY.

William Taylor, 34 years of age, a farmer's labourer, was admitted into St. George's Hospital Aug. 8th 1801, on account of a stricture in the œsophagus. He gave the following history of his complaints: 15 months before, he was seized with a cold, which brought on a difficulty of swallowing; this gradually increased. About the April following he thought himself considerably better, and becoming much stronger; he was then attacked by a second cold, and from that time the difficulty of swallowing became much increased. His symptoms were a smarting pain upon swallowing any cold liquid, even water, and inability to swallow solids. For the last year he could take no nourishment thicker than panada. An unarmed bougie, when passed down to the stricture, gave no



uneasiness. On the 10th the caustic was applied; it produced a heating pain in the throat during the whole of the afternoon; on the next day he swallowed better. On the 13th the caustic was repeated; the sensation of heat lasted till next morning, and he had hiccup during the night. On the 15th the caustic was applied; he found himself next day much better. 17th, it was repeated; the pain in the throat greater, and the swallowing more difficult. The caustic was repeated every other day during this month, and part of September, after which there were frequent interruptions from his catching cold, which always affected his swallowing. In December his health was evidently impaired, and his swallowing worse. Under these circumstances I advised his leaving the hospital for a little time to recover his health. He accordingly went out, but in a few days he was brought back in a state of great distress, unable to swallow any liquids, and in five days died.

He did not mention what had deprived

him of the power of swallowing ; but on the examination of the parts after death, it was found that he had swallowed some shot, which it was foolishly supposed from their weight would force their way through the stricture into the stomach. A stricture was met with in the situation already described, and the leaden shot had fallen into the orifice, so as to fill up the whole of its aperture. From the appearance of the parts a very few applications of the caustic would have made the passage sufficiently open to relieve him very materially, as there was no diseased state of the surrounding parts, only a degree of fullness, the natural effect of the irritation produced by the stricture.

#### CASE VI.

A CASE OF STRICTURE IN THE ŒSOPHAGUS  
WHICH TERMINATED FATALLY.

A lady, 46 years of age, had from her earliest remembrance had a narrow swallow, but for the last two years had perceived it

to be gradually getting worse, till she was unable to swallow any thing but liquids without danger of being choaked; occasionally she could take some bread soaked in tea. In the night, after sleeping some time, she awoke with a sense of suffocation, and it was an hour before she recovered. At these times she lost her voice till she swallowed some water. She brought up at all times a great deal of mucus, particularly after speaking, but still more so after taking food, and she thought porter increased the quantity of mucus more than any thing else.

Under these circumstances I saw her in January 1798. She was of a spare habit of body, very readily agitated, and her voice was below the usual pitch, like a person speaking below his breath, but loud enough to be perfectly distinct. I examined the Œsophagus by a common bougie, and afterwards applied the caustic; it gave little pain, and brought on no irritation. She took a little ice cream after it, which cooled the



parts and relieved them. The caustic was applied every other day for near three weeks. Her swallowing and voice were evidently improving, when one morning before getting up she had one of the attacks threatening suffocation, which was so violent as to induce me to bleed her and apply a blister to her breast; a degree of fever came on which lasted two or three days. After the caustic had been applied 15 times, she began to find that she could take nourishment with more ease, and in greater quantity; her voice was also better. On the 20th of April she had a violent return of the attack of suffocation; it was brought on by catching a severe cold, and did not go off. Her nights were very restless, and I wished her to change the air by going out of town; this she declined doing, and on the following night another fit of suffocation came on which terminated in her death.

On examining the parts after death, the œsophagus and trachea were, with respect to external appearance, in a natural state.

The mucous glands at the root of the tongue and fauces were uncommonly large.

The Œsophagus immediately behind the cricoid cartilage was contracted, forming a stricture; this was unattended with thickening, and consisted of a fold of the internal membrane only. The orifice through which the nourishment passed was only large enough to admit the blunt end of a probe, and the black tinge from the use of the caustic was evident upon its edges, shewing the application had affected that part and was enlarging it.

Between the stricture and the glottis the internal membrane of the Œsophagus was thickened, but below the stricture the appearance was natural.

The right lung was in a diseased state throughout its whole substance, and adhered universally to the chest.

The symptoms of suffocation, during the time she was under the treatment of the armed bougie, arose partly from the

irritation it produced, but in a still greater degree from the diseased state of the lungs.

The annexed plate of stricture in the œsophagus gives an exact representation of the appearance the parts had in this case after death.

It may not be improper, in a practical work of this kind, to mention that the rectum is liable to the same kind of stricture as the œsophagus, and in some instances is capable of being relieved by the same mode of treatment. The following very uncommon instance of this kind came within my own observation.

#### CASE OF STRICTURE IN THE RECTUM.

A lady, 28 years of age, had difficulty in going to stool from a very early period of her life, and the fæces, when they had any consistence, passed in a very small form. This difficulty increased as she grew up, till at last it required a considerable effort to expel the excrement, and when at all



costive, it brought on tenesmus and hæmorrhage. During the last three years she was so much affected by this complaint as to be frequently attacked by nervous affections and loss of appetite.

A bougie had been employed with a view of dilating the parts, but brought on so much irritation as to require its being left off. At this time I was consulted.

On the 26th of July 1800, I examined the parts, and found that about  $2\frac{1}{2}$  inches from the sphincter muscle there was a stricture in the rectum, which was just large enough to receive the extreme point of the forefinger. When the bougie had been passed beyond it, and retained there a few minutes, a mark was impressed upon it, but only on that side next the sacrum. With this information, I armed a bougie adapted to the aperture, which could only apply the caustic to the posterior side. The pain it produced was severe, and lasted 24 hours. It was followed by hæmorrhage to the amount of several ounces; and every time

she went to stool for the four following days there was an appearance of blood.

On the 30th she was so much recovered that she went to the play. On the 31st the caustic was again applied; no bleeding ensued, and the caustic was repeated twice after an interval of two days each time, and she had a motion regularly every day; this treatment relieved her very much from the symptoms she had laboured under. At this time unfortunately she swallowed a prune stone, which at first produced no inconvenience, as on the 2d day she had a natural motion; but on the 3d no passage could be procured, and so completely had the stone closed up the aperture of the stricture that nothing for several days could pass. Under these circumstances I examined the parts, and found the aperture of the stricture larger than before the caustic had been used. I passed up a silver instrument shaped at the end like a common bougie; this shape was however continued only for half an inch, when it suddenly

became no larger than a strong wire, so that it formed a species of hook covered by a rounded button. I was however unable to lay hold of the stone; but a clyster of warm water was thrown up, which brought on great straining, in which state, from the instructions she had received, she introduced the instrument, and brought away the stone.

She was so much relieved as to decline any further surgical assistance, and I have had no opportunity since that time of hearing any additional particulars of her case.

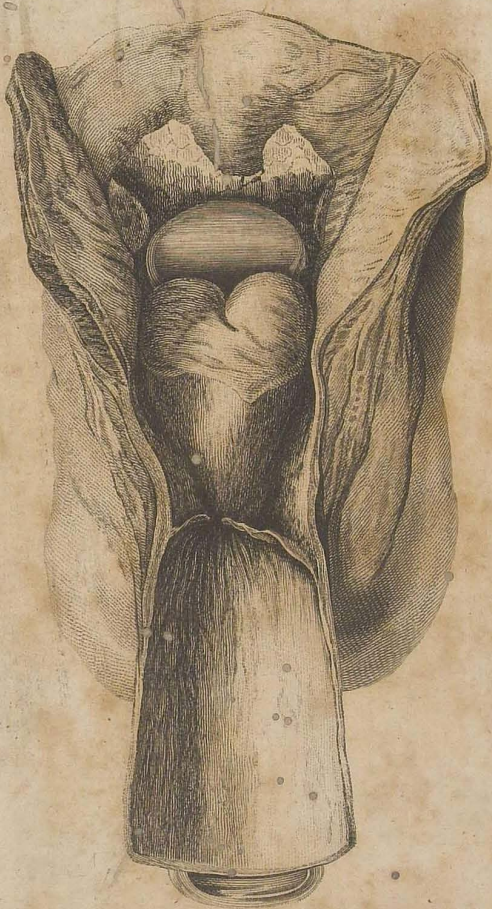


## EXPLANATION OF THE PLATE.

THE Plate represents an internal view of the fauces and œsophagus. They are exposed by slitting them up from behind where they lie upon the spine, and turning the cut edges aside, so that the œsophagus remains attached to the cartilages of the larynx, thyroid gland, and trachea, by which means its relative situation is preserved. The upper part of the Plate shows a portion of the velum pendulum palati, and the uvula, supported, so as to let the light pass through between them and the upper surface of the tongue, a small portion of which is exposed.

The velum pendulum and uvula have a tumid appearance, and the glands at the root of the tongue are unusually large.

Immediately below the tongue is the epiglottis, on each side of which one of the tonsils is seen; the left is most exposed.



*W. Clift del.*

*J. Basire sculp*

Directly under the epiglottis is the glottis ; the membrane covering the arytaenoid cartilages is much thickened. The fauces at this part have an infundibular form ; the smallest part of the funnel is directly behind the cricoid cartilage, and it is at this part the stricture has taken place, forming a membranous partition across the canal, except at one part to the left side, where there is a narrow passage through it.

The circumstances deserving of notice, as they respect the mode of treating the disease, are the small degree of thickening of the coats of the oesophagus surrounding the stricture, and the healthy state of the internal membrane immediately beyond it.

In the oesophagus of a young person in health there is a contraction at this part, which I believe has not been generally noticed ; it is to be distinctly seen in a specimen preserved in the Hunterian Museum, which is so prepared as to shew all these parts in their natural state.



On each side of the œsophagus in the Plate a portion of the thyroid gland is seen, and at the lower part one of the cartilaginous rings of the trachea is exposed.