The Bulletin

OF THE

South Indian Medical Union.

Vol. IV. | DECEMBER 1932. | No. 12.

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HONORARY MEDICAL OFFICERS.

The Scheme of appointing Honorary Medical Officers to all District Headquarters and Government Hospitals in the mufassal was introduced in 1929 and several officers were appointed. The scheme has made considerable progress as many private medical practitioners with special attainments in the branches of medicine and surgery were appointed as Honorary Medical Officers in the City State Hospitals as well as in the mufassal. Special clinics such as dental, ophthalmic and venereal in charge of Honorary Medical Officers have been opened and are working satisfactorily.

The rules governing the appointment, etc., of Honorary Medical Officers were examined by the Special Committee appointed by Government and the recommendations of the Committee are under the consideration of Government. The number of Honorary Medical Officers working at the end of 1931 was :—

Honorary Surgeons and Physicians	....	15
Honorary Assistant Surgeons and Physicians	...	41
Honorary Sub-Assistant Surgeons	...	24

At the beginning of 1929 there were only 9 Honorary Medical Officers working in Government Hospitals and at the end of the triennium there were 90 and the number is still increasing. When the rapid expansion in the number of our patients in recent years is considered it will be understood that these numbers could not have been dealt with satisfactorily without the added assistance of our honorary staff, because our Government staff has not been increasing in proportion to the increase of our patients. It has been calculated that without our existing staff we should, to deal with the same amount of work, have to employ more medical staff at a cost of Rs. 1,85,000 per annum and the honorary staff may therefore be considered to be saving Government this amount annually.

One of the large City hospitals, Royapetta, is now staffed almost entirely by Honorary officers, having a skeleton staff of only three Government Medical Officers.

BULLETIN
OF THE
SOUTH INDIAN MEDICAL ASSOCIATION.

DECEMBER 1932.

The Triennial Report.

The outstanding features of the last triennium (1929—31) are, as the Surgeon-General points out, the retrenchment of expenses of the department, the increasing number of patients who seek aid from all institutions, the rapid increase in the number of subsidized rural dispensaries and the expansion of the honorary medical scheme. The years immediately preceding the triennium under review were characterized by a rapid increase in the cadres of the various medical services and increasing emoluments and allowances to the various members. This increase in the number of highly paid medical officers and in the amount of money spent on salaries and buildings went on so rapidly that the previous Surgeon-General was constrained to remark in the triennial report of his that such increase in money available to the department was not likely to continue and he therefore suggested that the department should aim at doing much more with the amount of money usually allotted. Subsequent events have proved the warning of Major-General Megaw (the then Surgeon-General), to be prophetic. Scarcely had the present Surgeon-General taken charge of the department, when he was confronted with the urgent need of cutting down expenses in view of the prevailing economic distress of the country. It is therefore a matter for congratulation that he has been able to maintain and even improve the level of medical relief in the province inspite of the reduction in the financial resources available to the department.

We have more than once discussed in these pages the urgent need for the rapid expansion of the honorary scheme in this province not as an end in itself, but certainly as a valuable means to meet the great demand for a larger number of medical men to attend to the great bulk of patients who seek help in the various medical institutions of the Government and the Local Bodies. We are glad that this suggestion of the independent medical profession of this Presidency has been taken up by the Government. It has been felt that the Government was reluctant and unnecessarily cautious in acting upon this advice. But we are sincerely glad that the Government and the administrative head of the medical department have handsomely acknowledged in the report under review the great assistance they have received from the honorary medical officers From nine to ninety is certainly an advance for nine years. The scheme has been voted a success by all that are familiar with it. And having experienced its advantages we are perfectly certain that the Government would avail themselves of the undoubtedly valuable assistance of the independent profession to a more increasing extent.

It has been for long apparent to all, except those who would not see, that the various hospitals and dispensaries were attracting a rapidly increasing number of patients. Along with this increase, the attention that could be paid to them by the medical men in charge of these institutions has been getting more and more limited. This is unavoidable. A medical man can only attend to a limited number of patients within a particular time. If this number gets indefinitely increased, the attention must necessarily grow less to each individual. Whether this increase would expand indefinitely and

what are the causes of this recent large increase in the number of patients are matters for serious consideration. It is an undoubted fact that the people now realize to a greater degree the advantages of seeking help from well qualified and well equipped medical men. But it is also a fact that the present financial distress of the general public has greatly contributed to this increase in the number that seek advice at the public hospitals and dispensaries. Another contributory cause may be found in the rapid increase in the number of people who are employed by the State and quasi-governmental bodies. These are facts which should be taken account of in devising for the future medical needs of the province. But the immediate need is to employ a larger number of medical men in these institutions and to open a large number of new centres where the sick public would obtain relief nearer home and thus minimise the tax on the Headquarters and Presidency institutions.

A considerable portion of the introductory remarks of the Surgeon-General is devoted to medical colleges and medical education. We have yet a long way to go before we can feel that medical education in Madras is conducted on lines as sound and as efficient as obtain in some of the foremost institutions of the West. Even so, there would be few here who could disagree with the Surgeon-General's remark that considerable advance has taken place within the last few years in making medical education more efficient and fruitful. One of the most noteworthy measures in this connection is the decision of the Medical Education Committee that there should be no more increase in Medical Schools and that most of the small schools already in existence should be abolished. In agreeing to this, the Government have very wisely followed the general public opinion which has been hardening against the perpetuation of inferior standards of medical education. When the Royapuram Medical School is converted to a high grade institution, we would reach the first mile-stone in the real progress of medical education in this Province.

It is mentioned that the staff of the two medical colleges has been augmented by the appointment of more professors. For instance, the Madras Medical College has had for a number of years only one professor in charge of all the departments of Surgery. Within the last few years a lecturer in principles and practice of Surgery has been appointed. There is another professor for Operative Surgery. It were far better and more helpful if there had been only one eminent person occupying the chair of Surgery with a number of associate professors or lecturers to give more instruction in the wards. The appointment of independent professors and lecturers to each small department of Surgery interferes with co-ordinated team work and merely lengthens the wearisome class-room lectures. Further, in the name of efficiency, the status of a person who has been teaching a subject is changed from the rank of an Assistant Surgeon to that of a Civil Surgeon. This certainly helps a person to get more pay. But we fail to understand where the efficiency of teaching is improved. We welcome the sensible change that has been effected in appointing non-medical graduates to teach the subjects of Biology, Physics and Chemistry in the various colleges and schools. This is certainly economical and not less efficient than the old arrangement of asking medical men with no special qualifications to teach these subjects. We know there are still some people who think that all subjects in the medical schools and colleges should be taught by medical men.

MEDICAL LICENTIATES' CONFERENCE, MADRAS 20-12-'32.

Chief Minister's Speech

The Hon. the Raja of Bobbili opened the Conference. In doing so, the Raja Sahib assured them that they had his sympathy. The licentiates had in the past played a great and noble part in the organisation of medical relief in the rural areas. Proceeding the Raja Sahib said: In the matter of examination yon have been already told that the percentage of pass marks has been raised by the Government. Again you attach the greatest importance to the extension of the L. M. P. course to five years. Your worthy President, who is quite alive to the necessity for this extension, pressed for this scheme even last year, but owing to the extreme financial stringency then prevailing, it was impossible to consider it. With the slight improvement in the financial position we have recently had, there is every likelihood of the scheme going forward as Government consider it to be one of the most urgent schemes to be introduced next year. With the introduction of the scheme I think a great step forward will have been taken and an effective blow dealt to the untouchability in the profession.

As regards the provision of facilities by which they could secure the M. B. B. S. degree, the speaker said that the recent changes of regulations, made by the University of Madras at the instance of Dr. Guruswami Mudaliar is one in the right direction and he agreed with the Chairman of the Reception Committee that it met their demand only to a limited extent. The speaker was sure they would not spare any effort to get the concession extended fulther.

On the question of the All-India Medical Council, the Chief Minister said: I find it somewhat difficult to understand your vehement opposition to the non-inclusion of the Licentiates in the proposed All-India Register. I take it that your fundamental object is to have what is called untouchability, in the profession removed. If that be so, it is not clear to me how the mere inclusion of your names in the register will achieve the object. The Provincial Medical Registers contain your names as well as those of the graduates. Still you say you are branded as an inferior lot. I fear the same discrimination will continue even if you are included in the All-India Register. The fact of the matter is that the standard of your professional education is considered to be definitely below the minimum which is recognised in western countries. When once this minimum standard is reached by you, I believe, the inferiority complex from which you suffer now will automatically go. My sincere advice to you will be that you should concentrate your efforts on the extension of your course and the raising of the standard of training. With the raising of the standard of your professional education, you will acquire a status which will give you a right to be included in the All-India Register on the same terms as the University Graduates. The All India Medical Council will then become democratised and truly representative of the whole medical profession.

As regards the question of services, the Raja Sahib said that so far as this Province was concerned it would not be quite correct to say that graduates and licentiates were put into separate watertight compartments and that the latter, regardless of their ability, were debarred from promotion to the higher services. There was provision in the rules of the Madras Government for the promotion of licentiates of outstanding ability to the grade of Civil. Assistant Surgeons. Such promotions were,

however, limited in number. In the existing circumstances, the speaker was afraid it would not be possible to make provision for the promotion of a larger number of Sub-Assistant Surgeons than was at present the case. But that question would be considered afresh when the five-year course was introduced and the products of that course were recruited to the service. The Government would also consider the question under what coditions L. M. Ps. after five years training should be permitted to compete with graduates for recruitment as Civil Assistant Surgeons.

The Raja Sahib then declared the Conference open and wished it every success.

Surgeon-General's Address.

Need for Higher Standard of Training.

At the 25th Conference of the All-India Medical Licentiates' Association, held on 20th December at the Royapuram Medical School. Major-General C. A. Sprawson, Surgeon General with the Government of Madras, in the course of his presidental address, said :

Chief Drawbacks of the Profession.

The Licentiates are not only the most numerous body of those practising modern scientific medicine in this country, but are also those who form the bulk both of general practitioners in our towns and the large majority of our country doctors as well as the most numerous class who attend on the soldiers of our Indian Army in peace and in war. The Licentiates are therefore our first line of attack on disease, since it is they who as a rule come first in contact with the patients and on whose advice those patients depend for the maintenance of their health or recovery from sickness. With so important a body as the Licentiates, not only the Licentiates themselves, but the country as a whole is interested in their past, their present and their future.

Of the past I will say nothing but that the 32 years I have known Licentiates and worked with them have been years of continued and steady improvement in their position, in their general knowledge and culture but not leastly in their professional training and lastly, in their standard of medical ethics. They have made good and have established themselves in a position that commands attention and respect. With this position however they are not yet content and rightly so, for they wish still further to improve themselves in professional education and in other ways. This brings us to the present and to an examination of those things that Licentiates consider to be their chief disabilities.

I think the chief drawbacks from which Licentiates now suffer is that from which the whole medical profession in India suffers, that the profession is not united, but is divided into separate classes, whose interest are not always identical. The medical profession in India therefore cannot always speak with one voice, and it loses thereby some of the authority and influence which should belong to it. The gap between graduates and Licentiates is a large one; there is no denying that fact. What can we do to lessen it and to bring the two classes nearer ? We do not wish to lower the standard of University training. The Medical Education Committee that sat in Madras 3 years ago, told us that we required now not more doctors, but better doctors, so any lowering of standard would evidently not be a step in the right direction. The obvious alternative is to raise the standard of

licentiate training and the best manner in which to do this has for many years been the subject of my close study both in the United Provinces and in Madras.

Two Lines of Advance.

The two chief lines of advance will be, I am convinced, to raise the standard of preliminary education and culture necessary before starting on the licentiate curriculum and to lengthen the period of professional study from four to five years. I don't think it is generally appreciated how important arts education is as a preliminary to prepare the mind of the student for his medical curriculam. We so frequently find that we are feeding the student in his early years with a mental pabulum that he cannot digest and that is not due to any lack of natural intelligence on the student's part, but to defect in his preliminary arts training. I agree that the school certificate examination should be of a sufficient standard to ensure that the student has a good grounding and that the student by the time he is 16 years old and has passed that examination should be fit to undertake his medical course ; but in practice we find that the school certificate examination often has not a high enough standard to ensure our purpose and we are led with regret to prefer intermediate students if we can get them.

As regards the other desideratum, the lengthening of the curriculum to 5 years, I know you will agree with me that the time is now ripe for its introduction, at any rate in those parts of India that I know best. I think that some of you are inclined to blame various provincial Governments for not having done this sooner and think that the will to do so has been lacking. This, at any rate, has not been the case with those Governments under which I have worked, where delay in this respect has been due solely to the added annual cost such a measure would involve. The present is the most difficult time for any Government to make this innovation ; nevertheless, I am in hope that before long we may see these difficulties overcome in Madras and a lead given in this respect to licentiate education elsewhere. No doubt, this will be a great advance when it does occur and I am proud to have done my best to bring it about and hope that I shall be here to see the day of its initiation. It has been inspiriting to know that licentiate students themselves have asked for the lengthening of their course of study and have even sought for and obtained a raising of the standard of marking in their examinations. This improvement would not forthwith make licentiates equal to graduates, as some seem to think, though it should put them on better terms in every respect. Nor would it forthwith put the licentiate qualification on a level with eligibility for registration by the General Medical Council whenever that body may again be considering the registration of Indian qualifications. But I suggest to you that to seek registration by the General Medical Council at present is to pursue a shadow that is worth little to licentiates, and that only to the few who go to the United Kingdom to work for the fellowships of the various Colleges of Surgeons and Physicians. It is a subject that should not at present distract our attention which should be devoted to improving our educational methods and to regarding our own Medical Council.

Secondly I would warn you that every grant of more privileges means more responsibilities : that if more is given to you, more will be expected from you, and that especially in the way of social work and in your duties to the public. As officers in the army of health you have special knowledge and should take the lead in the instruc-

tion of the ignorant in matters of health and disease. For instance in such a concerted movement against leprosy as is now taking place in the Salem district, many licentiates are doing valuable work in informing the public and in overcoming inertia in the campaign against this disease. More still in the future will be expected from licentiates in this way.

Change of Designation.

Another point that has sometimes been discussed by licentiates is whether if they improve their education or status they should not also change their designation and instead of being licentiates be termed something else. Now I think a name is what the holders of that name make it, and I do not think the changing of a word is going to better matters. The name licentiates is already an honourable one and indicative of a good education; if that education becomes better, then the name licentiates will become still more honourable and the reputation of the diploma will be on its merits and not on any new name that may be given it.

Another note of warning that I wish to sound is to say that I do not wish the legitimate pride that licentiates may feel on completing a 5-year course to make them feel so efficient that they think themselves too good to go out and practice in the remote rural areas. The people of India are mostly agricultural and they want the licentiates out in the villages. If the young licentiate develops a wrong impression that the villages will not afford him work worthy of his skill nor payment adequate to his existence, he will find that these country areas will be served by practitioners of so-called Indian Medicines, compounders and others whom we cannot recognise as sufficiently trained to attend the sick. This would indeed be a disaster for which no improved education resulting from a 5-year course would compensate. But I trust the public spirit of your Association and its desire to serve India would work against such an event.

The question of practice in the country places is of importance. It has been suggested to me recently that licentiates ought not to be trained in big cities, but in smaller towns, so that the more readily may they be prepared to live a country life when they are qualified and to practise in the villages rather than in the towns. Several of the refinements and specialities of the modern medical course are obtainable only at the biggest cities; and after all I think it is economic pressure that is responsible for sending many of the licentiate practitioners who practise in the country into the rural areas. At present the majority of licentiates are not practising in rural areas. Of those licentiates on the Madras Register there are about two practising in the country to three practising in the city of Madras and bigger towns. Still I am glad to say the number of rural licentiates is increasing and that this is largely due to the Government scheme of subsidising practitioners in the country.

Improvements to be effected.

I refer to the great improvement in academic status and in professional standing of the teachers who give instruction at our medical schools, both in the scientific and in the clinical subjects. There has always been careful selection of those appointed to teach in our Medical Colleges and in the hospitals attached thereto but until recent years any medical officer seems to have been thought suitable to teach in the licentiate schools. Things are different now, at any rate in Madras, and if you study the list of the staff of our medical schools you will find

that in each appointment we have a specialist, a man almost invariably of high academic qualification. All have undergone special training in the subjects they have to teach. Even such a subject as Forensic Medicine, which was formerly regarded as teachable by any medical officer of experience, is shortly to be entrusted to a specialist in that branch of our profession, to one who will perform the duties of that subject and nothing else.

While I am speaking of improvements, I should not omit those that have taken place recently in the teaching of our women licentiates, who form a class increasing in numbers, in popularity and in professional competence. We have, at any rate in Madras, made recent arrangements for post-graduate courses for women licentiates in obstetrics and gynaecology, a much-needed revision for those who have been serving long in mofussil stations. More recently still we have seen the opening of the beautiful buildings and well-equipped classrooms of the Mission Medical School for Women at Vellore, with its companion hospital, may be expected to produce an increasingly efficient number of women licentiates.

I consider improvement in ethics to be as important as improvement in professional knowledge. There is still much room for further improvement in this respect, but I look with confidence to the younger generation of practitioners now coming from our better schools to make their influence felt in the whole profession.

The Future of Licentiates

It is on these younger men, both licentiates and graduates, who are now going out into the world that we place our trust; we look to them to carry the purifying influence of the standards, with which they have been imbued in their student days into the daily practice of our profession; and no one will be more glad to see the good influence of these young Indian practitioners than their own fathers. Long though my own experience of medical education in India has been. I have always something new to learn and I take this opportunity of thanking those licentiates and those teachers of licentiates who have discussed often with me improvements in the course of the L. M. P. training for the benefit of the counsel they have given me. If and when we get our five-year course, the present teaching will be modified and additional subjects of training, such as Biology that we have long thought necessary will be introduced. We have ready an improved syllabus for the proposed extension, and yet further discussion by the teachers of the licentiate classes on further possible improvements may then be advisable.

I have spoken briefly, of the past and lengthily of the present licentiate affairs. He would be a bold man, who would undertake to look far into their future. It may be that future advance and development would show the advisability of affiliating what are now called our medical schools to some University not yet possessing a medical faculty, but such ideas are but speculative. One can, however, look to the future of licentiates with every hope and confidence, and not only to their future, but to the future of the medical profession in India, for the two matters are inseparable. I regard the two classes of graduates and licentiates as two warriors fighting disease. If now we arm one of these warriors with better weapons than he has hitherto possessed, we can look to their fighting side by side on terms of complete harmony, and with greater success and can confidently anticipate the day when we shall have a united medical profession in India.

ASSOCIATION NOTES.

The Trichinopoly District Medical Association.

The third annual gathering of the above association was celebrated on 23rd December 1932 in the E. R. High School, Teppakulam, under the presidency of Dr. S. Rangachari of Madras who arrived by Aeroplane at about 12 noon. About 70 doctors attended. The function commenced with a grand dinner at 12 noon.

The annual meeting commenced at 3 p.m. Dr. S. Padmanabha Sarma, the President of the Association welcomed Dr. S. Rangachari to the association. Dr. T. S. S. Rajan in proposing Dr. Rangachari to the chair referred to his eminence as a great surgeon, physician and obstetrician and said that he represented in a fitting manner both the service and the independent profession. He also referred to Dr. Rangachari's connection with the South Indian Medical Union, of which he was the head.

Dr. Rangachari then took the chair amidst cheers and called upon the Secretary Dr. Raghavan, to read the annual report which was read and adopted, Dr. T. S. S. Rajan proposed that the same office-bearers be re-elected for the coming year. This was seconded by Dr. K. V. Gopalakrishna Iyer and unanimously approved. The minutes of the last Managing Committee meeting sanctioning the expenses for the annual function, auditing of accounts, and modification in subscribing for journals, and waiving the subscription for a period of one year for such of those rural practitioners who could not afford to pay were read and ratified.

Dr. Rangachari said that he was glad to note the number of members who mustered strong for the meeting which was unique and not usual even in the metropolis. He hoped that the monthly meeting also would be as well attended. He said he felt honoured for being invited to preside at such a distinguished gathering. Trichinopoly had a name as a surgical centre for the last 20 years mainly through the presence of Dr. Rajan, an eminent surgeon and now being supplemented by Dr. Padmanabha Sarma, an equally good surgeon. He humourously referred to the surgical skill of a pick-pocket who very skilfully clipped off his pockets and relieved him of some money a year back when he spent a night in the Trichy Aerodrome.

He said he had to repeat the advice he gave on a similar occasion elsewhere that medical men should not seek advice but gather experience. He said that unlike other professions the medical profession was one which would render free service to the public and be supported by the state and society. It should not be, as the Scotsman said, cheaper to die than to be treated. He also said that it was the heavy cost of the alopathic treatment as practised to-day which induced many to seek relief in other systems of medicine. He also hoped that medical men would educate the lay public in correct ways of living and thus avoid the luxury of illness and treatment.

The Secretary, Dr. P. A. S. Raghavan, thanked the President for flying over here at such great sacrifice and presiding at the function. He also thanked Dr. S. Padmanabha Sarma, the President of the Association. After a group photograph and tea the meeting terminated.

Tanuku Medical Association.

The last meeting of the Tanuku Medical Association for the year 1932, was held on Sunday the 4th December with Dr. G. Sivaram, M. B. & B. S., in the chair.

The Association placed on record its deep regret on the premature demise

of Rao Saheb Dr. M. Seshadri Reddi L. M. & S., who was one of its members and resolved to communicate the same to the members of the bereaved family.

Dr. Ch. Sathirasu, M. B. & C. M., M. R. C & S., and Dr. Y. Suryanarayana Rao, L. M. P., were unanimously elected President and Secretary respectively of the Association for the year 1933.

Dr. G. Sivaram, M. B. & B. S., gave an interesting discourse on the Principles of Ayurvedic System of Medicine which was followed by some discussion.

After light refreshments, the meeting terminated with vote of thanks to the President and the host.

EXTRACTS.

Conditions in childhood which predispose to the early development of arteriosclerosis.

(*A. J. M. S., Oct. 1932.*)

Dr. Pearl Zeek of the department of Pathology, University of Cincinnati General Hospital, analysing the post mortem findings of 3,072 cases dying in the Cincinnati General Hospital from January 1, 1925 to January 1, 1931, found that of 1,070 cases who were under 30 years of age, 79 showed definite evidences of atherosclerosis. The atheromatous changes were found invariably in the aorta, pulmonary or coronary arteries in 23 cases (out of the 79) of rheumatic heart disease. In all the 4 diabetic cases arteriosclerosis of the aorta was in evidence. Of the 52 non-diabetic and non-rheumatic cases, showing definite atherosclerosis, chronic renal lesions were found in 34 cases and also in 10 of the 23 rheumatic cases, the renal arterioles being the vessels most frequently affected. Apart from the above manifestations, focal lesions in the medulla of the Suprarenals and hypoplasia of the Malphigian corpuscles in the spleen were found to occur to a very great extent in the cases exhibiting atherosclerosis.

Discussing the relationship between arteriosclerosis in children and hypervitaminosis, Dr. Pearl Zeek says, that there is much experimental evidence to prove that marked vascular changes with calcification are produced by toxic doses of irradiated Ergosterol, although such changes have not been proved with any certainty in human beings. However certain investigators claime to have found vascular changes of a similar nature by administering less toxic doses to man.

The toxcity of irradiated Ergosterol according to Schetting depends upon the potency of the irradiated substance, age of the recepients, the period of administration and the calcium and phosphorous content of the diet.

Hence Dr. Zeek says that certain amount of caution must be exercised in the administration of these substances, which should be entirely in the hands of medical men, due regard being paid to such factors, as age of the patient, diet and degree of need of theirradiated product.

Idiosyncrasy to Viosterol.

In this article Drs. Murray, B. Gordon and Hyman Leiberman (A. J. M. S., June 1932) present a summary of their investigation on the effect of irradiated ergosterol (250 D viosterol) on 200 infants of whom 15 showed untoward symptoms within one or two days after the administration or almost immediately. The dosage varied in the above cases from one drop a day to three drops three times a day. In a few cases the disturbance continued even after the drug had been stopped thereby showing its progressive action. The harmful effects noticed among the infants under consideration were

diarrhœa, vomiting, loss of appetite, colic, and stationary or loss of weight.

In 12 out of 15, diarrhœa (4 to 25 yellow or green watery motions a day) was manifested and the condition stopped after the discontinuance of the drug except in two cases. Even infants with previous obstinate constipation began to pass one or two loose motions after the administration of viosterol. The dose of tolerance was peculiar to each case, usually varying from one to nine drops a day. There were infants who showed intolerance to even 1 drop as against those who exhibited marked tolerance up to 9 drops a day. Vomiting was observed in 8 cases and it occurred in all except in one, as an associated symptom. As with diarrhœa, this symptom appeared immediately after administration or was noticed 2 days later and it ceased in all cases on stopping the drug. Its recurrence was observed on resumption of the drug. When the drug was given in a suspension the symptom was absent in all cases except two in whom it continued for 3 and 4 days respectively. Loss of appetite unless this symptom was observed to occur in association with other symptoms, was not included because of its frequent occurrence in infancy. This symptom was in evidence immediately after the commencement of the drug or in about a few days.

Four cases exhibited colic, this symptom always being observed in association with other symptoms. Colic was never noticed to occur in cases with constipation as reported in A. F. Hess' series with excessive dosage. In 12 cases there was an increase in weight, stationary in 2 associated with loss of appetite, vomiting and diarrhœa. The stationary cases showed a gain in weight after the stoppage of the drug without any change in the diet. Loss of weight was seen only in one infant in whom diarrhœa continued even after the drug had been stopped. The authors attribute this loss of weight as due to the combined action of the associated symptom, and not to the direct effect of ergosterol. Two cases showed skin lesions, one erythomatous and the other maculopapular and these appeared in the group not included within the 15 cases of idiosyncrasy, as they did not appear on resumption of the durg. Five infants who had previously reacted to ergosterol, did not show any evidence of untoward symptoms on the administration of non-irradiated maize oil. The authors say that it was not possible to present blood and urine findings as most of the patients under consideration were from private practice.

The duration of idiosyncrasy, the authors believe is not of a permanent nature. This was illustrated in the case of an infant in this series who exhibited marked intolerance to two drops three time a day. Subsequently even one drop was followed by untoward symptoms. The drug was resumed after some time with one drop a day and the dose was increased upto to 15 drops without any manifestation of ill effects.

The authors state that massive doses (1000,—40000 times Prophylactic dose) of irradiated ergosterol administered to experimental animals have produced a definte syndrome as subjective and objective signs, chemical changes, and post mortem findings : Loss of appetite, diarrhœa, stationary or loss of weight, bradycardia, hypercalcaemia, hyper phosphataemia, saturation of calcium salts in the urine, greater acidity of stools, dimination in the serum-protein concentration with a higher albumin-globul-in ratio, hyper calcification in the internal organs, formation of calculi in the bladder, calcification of the aorta and arterioles of the kidney and suprarenals. Necrosis of arterioles, especially of the kidneys ; hypermineralization of

bones; reduction in the size of spleen; atrophy of thymus and loss of subcutaneous fat.

In children some of the disturbances above mentioned have been observed by many clinicians after the administration of large doses and the subjective and objective signs, chemical changes, and post mortem findings were as follows:—Gastro-intestinal disturbance, stationary or loss of weight, loss of body fluids, anaemia, rashes, nephritis, fever, stupor hypercalcaemia, hyperphosphataemia and hypermineralization of bones. Post mortem findings were similar to those of experimental animals but less marked.

There are others who believe that such changes are not possible in children and A. F. Hess was of opinion that no harmful effects ever manifested themselves in children even after the administration of large doses. Moore, Dennis and Phillips affirm that the preparation is as free from toxic effects as ordinary salt. The observations of Hess and collaborators, showed that the administration of 21 to 52 times the prophylactic dose to children did not bring on untoward symptoms. They observed gain in weight, increase of appetite. That toxic doses are capable of harmful effects is not denied by them entirely but they consider that a wide margin of safety exists. Similar results have been reported by Sobel and Claman, and Kostyal. The authors believe that mild disturbances are set up in a small percentage of cases even with minute amounts. These disturbances they consider are of the nature of idiosyncrasy to the drug. The authors deplore the lack of any uniform standardization of the drug which would facilitate the easy fixing of dosage.

They are surprised at the paucity of information on the subject of idiosyncrasy to viosterol. However certain investigators have been able to demonstrate two separate and individual components, one antirachitic and the other toxic. These components are reported to have been separated by chemical means by Windens, Reerink and Van Wijk.

In view of the conflicting opinions regarding the action of irradiated ergosterol and the lack of uniformity of standardization of the drug one is tempted to ask whether these concentrated medicaments do really serve the purpose in prophylaxis and therapeutics without the manifestation of ill effects. However one must needs be cautious in recommending these drugs.

The effect of Exercise on Human Erythrocytes.

This article (by Christianna Smith, Ph. D. and Katherine F. Kumpf, M.A., A.J.M.S., October 1932) presents the results of investigation of 40 cases in whom the effect of a 2 minutes exercise on the red blood cells as regard total red cell count, total hæmoglobin, volume percentage, mean corpuscular volume, and mean corpuscular hæmoglobin was observed. It was found that there was a marked increase in the number of red blood cells immediately after exercise (average increase of 550,000 cells) and in 30 to 45 minutes a gradual return to normal was noted, the fall being invariably observed within 15 minutes after exercise. The amount of hæmoglobin was determined by drawing blood into hæmoglobin pipette and diluted with a 1 per cent solution of hydrochloric acid and readings were taken in a dark room with a Duboscq colorimeter equipped with a Bausch and Lomb Newcomer hæmoglobin attachment. The readings were expressed in grams per 100 c.c. of the blood. As figures obtained were too low 2·48 gm. per 100 c.c. were added, the correction figure having been previous-

ly obtained by comparing the results with the Van Slyke apparatus. The values obtained did not vary much from the normal, there being only a slight but not significant increase and the return to normal was rather quick. The volume percentage was measured by centifugalizing for 30 minutes at 4000 revolutions a minute, a definite quantity of blood in van to which a 1·3 per cent solution of sodium oxalate was added as a diluent and the column of sedimented red cells was read in terms of the percentage of the total original column It was observed that there was very little volume percentage change. The determination of the mean corpuscular volumes was obtained by using Wintrobe's formula.

$$\text{Corpuscular volume (cubic micro.)} = \frac{\text{Volume of packed cells (c.c. per 1000 c.c.)}}{\text{Total red cell count (millions per cu. mm.)}}$$

A decided fall in corpuscular volume was observed after exercise and a return to normal in ¾ to 1 hour was a feature. The average amount of corpuscular hæmoglobin determined according to Wintrobe's formula

$$\text{Corpuscular Hb micro-micro-grams} = \frac{\text{Total Hb (gms. per 1000 c.c.)}}{\text{Total red cell count (millions per cu. mm.)}}$$

was found to be less than normal soon after exercise. As with red cell count, there was a gradual return to normal. There was no alteration in the corpuscular hæmoglobin concentration after exercise, as determined by the formula hereunder :—

$$\text{Corpuscular Hb concentration (in per cent value.} = \frac{\text{Total Hb (gms. per 100 c.c.)} \times 100.}{\text{Volume in c.c. per 100 c.c.}}$$

Expressing the results in a tabular statement :—

Deviation from normal or otherwise after exercise.	R.C. Count.	Total Hb	Vol. Percentage.	Mean Corpuscular vol.	Mean Corpuscular Hb.	Mean Corpuscular Hb concentration.
	Increase	No change	Slight increase	Decrease	Decrease	No. change.

The increase in the total red cell count after exercise was studied by many investigators whose result tally with the present findings. As regards the hæmoglobin content of the blood the researches of Boothby and Berry Schneider and Havens and Brown have shown a definite increase while that of Orias indicated a real drop, but in the latter case the subjects underwent a strenuous exercise for 15 days. The drop has been attributed to red cell destruction and this has been confirmed by Brown who noted similar results in dogs subjected to prolonged periods of activity.

The decrease in the corpuscular hæmoglobin, though the total hæmoglobin content did not show any significant change is suggested by Mitchell as being due to the fact that the incoming cells contain less hæmoglobin, than those normally present in the circulation. It was found that there was no change in the amount of hæmoglobin in each cell in proportion to its volume. The hæmocrit method of determination of volume percentage

should have shown a definite increase following an increase in the number of red cells, but the present findings indicated only a slight increase. Smith and Prest, following the same method obtained in woman with total cell counts of 420,000 less than the normal average, 4 per cent. lower total volumes. The results of Edgecombe showed a rise in the percentage volume of red cell, with a fall in the hæmoglobin content and the former was very much increased by profuse perspiration. Real increase in volumes was obtained by Brown, Scheunert and Muller, Scheunert and Krzywanek, Krzywanek and Arnold and Arnold and Krzywanek. In experimental animals the increase in volume was not so high as in man according to Arnold and Krzywanek.

As regards the mean corpuscular volume, Price-Jones has noted a definite increase in the diameter of the cell following vigorous exercise and this was associated with a dimunition of blood alkalinity. Other workers (Wiechmamam Schurmayer, Brown) have confirmed the observations of Price-Jones. Scheunert and Krzywanek obtained different values, *viz.*, that the volume of the cell remained constant during rest and activity. Dr. Yerre observed similar results and so also Ponder and Saslow Hawk has outlined causes for an increase in the number of red cells, *viz.*, production of new cells, concentration of blood as the result of increased perspiration and urine formation, as a sequence of vasomotor contraction and rise in blood pressure, through evaporation in the lungs, sudden mobilisation of red cells into circulation from various parts of the body, the passage of fluid from the blood to the active muscles. The sudden increase in the number of red cells has been attributed by other investigators as being due to the rapid discharge of cells from the viscera especially the spleen

OBSERVATIONS.

A feather on the cap of the Honoraries

(From a contemporary.)

" Though it is stated that the number of I. M. S. officers has fallen from ——to——the expenditure on salaries has increased by about——lakhs of rupees. If only some of the—— honorary officers are replaced by paid officers, there would not have been any increase in the expenditure."

Progress of a great social movement in Great Britain as recorded in Nature.

" A demonstration of contraceptive technique will be given at the Clinic of the Society for Constructive Birth Control on October 5, at 2-30—5 p. m. to medical practitioners and senior medical students only, who will be given an opportunity of practising various methods under tuition on women patients. Lectures and domonstrations will be conducted by Dr. Beddow Bayly and Dr. Evelyn Fisher and the midwife-in-charge. Applications for tickets (which are necessary) should be made to the Honorary Secretary of the Society, 108, Whitfield Street W. I."

Letter received by a Montana Doctor from a lady in distress.

DEAR DR.

Last June I came to see you, I told you of an operation I had had.

This summer I went to the doctor who helped and I found out about it. He told me my tubes were removed. That was all. Otherwise I am healthy and normal.

I told him how badly I wanted a child. He told me no operation would insure this. He did say that all I lack is the germ. He told me that germs could be transferred from another woman.

Do you think that would be possible? Would you perform such a thing ? If so when ?

I'll pay you whatever you ask and it will be cash. —*J. A. M. A.*

UNIVERSITY EXTENSION BOARD, MADRAS.

PROGRAMME OF POST-GRADUATE LECTURES IN MEDICINE.

Time and date.	*Lecturer.*	*Subject.*
Wednesday, 4th January, 1933, 5 p.m.	Lt.-Col. J. M. Skinner, I M.S.	Respiratory Diseases
Friday, 6th January, 1933, 5 p.m.	Dr. P. Krishnaswami, M.B., M R.C.P.	Circulatory Diseases.
Monday, 9th January, 1933, 5 p.m.	Dr. M. R. Guruswami Mudaliar, M.D.	Tropical Diseases.
Wednesday, 11th January, 1933, 5 p.m.	Lt.-Col. J. M. Skinner, I M.S.	Respiratory Diseases.
Friday, 13th January, 1933, 5 p.m.	Dr. P. Krishnaswami, M.B., M.R.C.P.	Circulatory Diseases.
Monday, 16th January, 1933, 5 p.m.	Dr. M. R. Guruswami Mudaliar, M.D.	Tropical Diseases.
Wednesday, 18th January, 1933, 5 p.m.	Lt.-Col. J. M. Skinner, I.M.S.	Respiratory Diseases.
Friday, 20th January, 1933, 5 p.m.	Dr. Mannadi Nayar, M.B B S., Ph. D,	Biochemistry as an aid in Clinical Diagnosis.
Monday, 23rd January, 1933, 5 p.m.	Dr. P. Krishnaswami, M.B., M.R.C.P.	Circulatory Diseases.
Wednesday, 25th January 1933, 5 p.m.	Dr. M. R. Guruswami Mudaliar, M.D.	Tropical Diseases.
Friday, 27th January, 1933, 5 p.m.	Dr. P. Krishnaswami, M.B., M.R.C.P.	Nervous Diseases.
Monday, 30th January 1933, 5 p.m.	Dr. Mannadi Nayar, M.B B.S., Ph. D.	Biochemistry as an aid in Clinical Diagnosis.
Wednesday, 1st February, 1933, 5 p.m.	Dr. P. Krishnaswami, M.B., M R.C.P.	Nervous Diseases.

The lectures will be delivered at the Hygiene Lecture Hall, Medical College, Madras, and are open to all Medical Practitioners. Senior Medical students of the College and the schools may also attend.

SENATE HOUSE, CHEPAUK,
Madras, 1st January, 1933.

WILLIAM McLEAN,
Registrar, University of Madras.