

theory. I am aware that I shall be asked for "results," and there is an incurable habit abroad in our profession of regarding results as in some way associated with "statistics." I accordingly give here the statistics prepared for my paper before the Surgical Section of the Australasian Medical Congress in November, 1905.⁶ An interval of one year from the date of operation was taken as the criterion of success. Briefly, out of a total of 89 cases of adult hernia I was only able to trace 63. Of these 63 recurrence had taken place in three. These three recurrences require examining in order that their bearing on the saccular theory may be justly estimated. They are: 1. The case of direct funicular hernia to which allusion has been made in which I failed through ignorance of how to treat it. This is the only one of the three for which I do not hold myself to blame. 2. A man, aged 62 years, with strangulated left inguinal hernia which had just appeared for the first time. He returned five months later with a slight recurrence. (N.B.—It was a case of *total funicular hernia* and therefore can afford no evidence against the saccular theory.) 3. A case of ordinary inguinal hernia in a woman. Shortly after she left hospital she returned with a small recurrence. This is so absolutely contrary to all my experience in this most simple class of cases that I can come to no conclusion but that I must have blundered; in what way, exactly, I know not. So that of the three recurrences, we may fairly put the first two aside as not available in evidence against either the principle or the practice which I have been advocating.

I do not know whether these statistics compare favourably or unfavourably with those of other surgeons, because I do not know the statistics of other surgeons; nor am I particularly interested. The sole interest of my statistics lies in their bearing on the question of the truth of the saccular theory. I have always contended that the final and absolute means of testing the saccular origin of any individual case of hernia is to remove the sac. If the hernia have been an "acquired" hernia, recurrence will take place infallibly; surely there can be no possible doubt as to that. If, on the other hand, the hernia does not recur, then the sac must have been the cause of the hernia. I shall assume that these two self-evident propositions are accepted. This being so, the bearing of my statistics on the saccular theory is as follows. Out of 63 unselected cases of hernia in adults, 62 are proved to have been of saccular origin and the remaining one provides negative evidence only. As a matter of fact, the odd one is really not worth discussing; there is no shadow of doubt that it was identical in nature with the others. I may add that I never consider it necessary to keep my patients recumbent for a prolonged period. They usually leave hospital within the fortnight with injunctions as to ordinary care and quietness for a week or two.

I need not say that removal of the sac for hernia is not a novel suggestion; it is the oldest of the open operations for hernia because it is the most obvious. The history of the various operations for hernia since the introduction of antiseptic surgery is of extreme interest. It furnishes a striking commentary on the necessary supremacy of principles over practice; or better, on the chaos into which practice may fall if it should chance, as in the case of hernia, to fall under the dominance of a mistaken principle. Without attempting to review the various well known methods, I would like to point out that they seem to divide themselves into two groups: (1) an earlier group, of which the methods of Czerny, Bale, Macewen, and Kocher are types characterised mainly by differences in the management of the sac; and (2) a later group, Bassini, Halsted, and others—in these it is obvious that the main idea underlying them is that of increasing the strength of the inguinal region. Even the justly distinguished surgeon, McBurney, has a quaint mediæval notion of doing this by means of cicatricial tissue; while at the extreme opposite pole stands a continental surgeon with the amazing suggestion of grafting a piece of dog's periosteum over the internal ring. It was owing to a grave flaw in the guiding principle that the first group failed to achieve complete success; it is owing to precisely the same cause that the second group of "degenerates" ever saw the light. These, as they become elaborated, wander farther and farther from the true principles to which the first group were so very close.

The saccular theory bids us to abandon all these more recent devices; it further demonstrates to us the reason why

all operations that have been hitherto devised have yielded imperfect results. It places the finger not merely on the defects of all operations for hernia: it denies that any formal operation such as could be associated with the name of a particular surgeon can be of real and comprehensive utility. It answers the obvious comment that will be made on this last statement to the effect that excellent results are obtained by various operations, by pointing out that the excellent results occur only in the cases in which the sac happens to be perfectly removed. It presents us incidentally with a curious seeming paradox; for while on the one hand it shows that there can be no such thing as an operation for hernia, it assures us, on the other, that there can be no such thing as a hernia that is not curable by operation. It promises practically perfect results in the future, far more perfect, at any rate, than have ever yet been attained by any operator or operation; but it imposes the three following conditions. Firstly, the surgeon shall concern himself with the peritoneo fascial layer of the abdominal wall alone. Secondly, he shall be prepared for the recognition of any and every variety of hernial sac, and ready with the appropriate measures for dealing with each. Finally (and this will follow naturally from the former two), he shall fully recognise that in the event of recurrence the explanation is not to be found in the weakness of the patient's muscles, but must be sought a little nearer home.

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SO-CALLED VIRULENT SYPHILIS AND ITS TREATMENT.

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ALTHOUGH nowadays comparatively few cases of what used to be called malignant syphilis are met with compared with those which came under notice 20 years ago, still they are numerous enough to merit our keenest attention. As to the cause of this decline, it is supposed to be due chiefly to two factors: (a) gradual attenuation of the syphilitic virus; and (b) the improved methods of treatment. By malignant syphilis is generally meant that form of the disease which is associated with an indurated sore, which, probably becoming phagæenic, is followed by rupial ulceration of the skin, nodes, caries and necrosis of bone, and later by visceral lesions, cachexia, anæmia, and profound debility.

The histories of many epidemics show that the intensity of the virus of syphilis may be so great as to take on the above action irrespectively of the physical condition of the patient, attacking even those of the most robust constitution with the greatest virulence, and in spite of all treatment, but this latter is the exception. My own experience is that in the majority of cases there is present some well-marked cause which influences the progress of the disease. The following conditions, either singly or together, will generally be found to be associated in such cases: (1) poor physique; (2) living under bad hygienic and generally debilitating circumstances; (3) malaria; (4) the presence of any organic disease, especially renal; (5) alcoholism; and (6) delayed and inefficient treatment. As regards the first, it goes without saying that the poorer the constitution the less resistant it will be to the action of the syphilitic virus. Hygienic surroundings will certainly influence the progress of the disease for better or worse; thus the enervating climate of the tropics exercises a markedly baneful effect on it, while some of the worst cases are to be seen in overcrowded and dirty seaport towns. That malaria is a more potent factor in influencing syphilis for the worse than it has hitherto been given credit for is now certain, and, personally speaking, I can say that in some of the very worst cases which I have seen the patients had either been recently exposed to malaria at the time of syphilitic infection or the plasmodium could still be detected in their blood. The presence of any organic disease, especially renal, will, of course, exert a powerful influence on the progress of any given case of syphilis, in being in itself not only a drain on the system but also by its presence either preventing altogether or at least limiting the exhibition of specific treatment. It has long been an accepted fact, and one that is true, that the drunkard has a worse chance of resisting the syphilitic virus than the moderate drinker. The last and probably the most important

⁶ Intercolonial Medical Journal of Australasia, November, 1905.

of these conditions is delayed or inefficient treatment. For many years it had been an accepted maxim "that the earlier mercury was given in syphilis the more it influenced for better the future progress of the disease." Of late years this has been disputed by some of the greatest authorities, who advise that it be withheld until the appearance of secondary symptoms, the *rationale* of this being, as far as I can make out, chiefly to qualify them to be in a position definitely to assure the patient whether he has or has not syphilis; at the same time these observers state that the withholding of treatment thus does not alter the after course of the disease. Neither to this advice nor to the latter statement can I subscribe for one moment, for I have seen several cases where a primary sore, having been allowed to heal up without specific treatment, although not followed by any of the ordinary looked-for secondary signs, was succeeded in from a year to 18 months by some grave nervous or paralytic affection (the first indication of syphilitic infection) which would probably not have occurred if the mercury had been exhibited with the first symptom. It cannot be denied, and is only too apparent to those who have had much experience with syphilis, that withholding specific treatment, its non-continuance for any length of time, or irregular administration are all factors which determine the disease assuming a semi-malignant character.

In dealing with the cases of virulent syphilis under consideration the main question which arises is, What line of treatment ought to be adopted towards them? Up to a comparatively recent time such cases were looked on as more or less hopeless, so far as any specific line of treatment was concerned, and some of the greatest authorities on syphilis, notably Carmichael of Dublin, whose work on the whole subject of syphilis is classic, taught that the exhibition of mercury in them was not only contra-indicated but actually harmful, and I have not the slightest doubt but that, restricted as were the means then of introducing mercury into the system, this teaching was correct; and I can well recall more than one case in my earlier practice which not only resisted but which went from bad to worse on the exhibition of specific treatment; but it must be remembered that in those days the only really practical way we had of giving mercury was by what is known as the "internal method"—*experientia docet*—and since then we have learnt "that mercury given internally over any lengthened period in any case of syphilis by upsetting the digestive apparatus sooner or later brings about depletion of the system generally"; how much sooner and with what more serious effects will it act when exhibited thus in these cases of malignant syphilis which are under consideration. However, the introduction of the modern ways of giving mercury, notably that by intramuscular injection, places us in a much stronger position to deal with, not only the ordinary cases of syphilis, but also with cases of a virulent type. Given by intramuscular injection mercury will prove itself as beneficial in these latter as it has hitherto done in the former, that is, provided due care be exercised in regard to its dosage and by paying strict attention to what I call its essential adjuncts. If these be adhered to mercury can be given with the greatest safety and benefit in all cases of syphilis and I have not the slightest hesitation in saying that, if carried out properly, we would see very few of the deplorable effects of these virulent cases, and would add that in my opinion one of the main causes of the latter is the reprehensible practice which exists among a great many practitioners of giving mercury internally combined with potassium iodide for lengthened periods, irrespective of their syphilitic patient's condition or of his symptoms.

In discussing the treatment of these semi-malignant syphilitic cases it will be necessary to take into consideration certain points in connexion with them, points which may have the most important bearing on the former. First and foremost comes the question as to what was the probable factor in causing the disease to assume its virulence and to continue in the same groove. This may have been due to some organic disease; if so, our attention in the first instance must be riveted on it, and if possible we must endeavour to palliate it before active specific treatment is begun. Again, the condition of the constitution generally must be looked to; should it have been broken down through climatic or other depressing influences it will require to be dealt with accordingly. The patient ought to be removed from any lowering conditions to mind and body, more

especially the former, and his thoughts taken off his condition as much as possible. This is of the utmost importance and, although very often hard to attain, it is well to keep ever in mind. As to the physical condition, nine out of ten of these cases will require feeding up with the most nourishing and wholesome diet of which we can think. Some cases are only able to assimilate meagre nourishment, when milk may be given mixed with plasmon, pure beef juice, and concentrated beef jellies. I have been using with the greatest success during the last two years half an ounce of sanato-gen three times a day, which among uneducated patients ought to be ordered in the form of medicine; if given as a food it will not be taken. Stimulants are generally called for in these cases, but must be given with care. As soon as the patient can be moved he ought to be brought into and kept as much as possible in the open air. With regard to drugs, irrespective of specifics, tonics of all sorts will be required, both mineral and vegetable, and first among them comes sarsaparilla which ought to be given in large doses in nearly all cases of virulent syphilis. In these cases there is often a tendency to hæmorrhages owing probably to the non-coagulating condition of the blood. To improve this latter nothing is better than chloride of calcium given in from 10 to 30 grain doses thrice daily.

Specific treatment is, of course, the most important question to be considered in connexion with these cases and the points that arise are when to begin it, how long to persist, and when to desist with it; also as to dosage. As regards the first, a great deal will depend on the actual kind of case one has to deal with, also as to whether mercury has been given beforehand in the same case. For instance, the disease may have begun in the ordinary way—i.e., a hard sore followed by one of the milder rashes, &c.—everything may have been supposed to be going on well, when a sudden outbreak of alarming symptoms takes place—rupal ulcers appear on various parts of the body, the throat becomes deeply ulcerated and the soft bones of the skull involved in caries. These are always urgent cases and unless dealt with at once will rapidly go from bad to worse. At the same time their specific treatment calls for the greatest circumspection and a good deal will depend on whether or not they have had mercury already and for how long. Should the above symptoms appear whilst the patient was under the effects of the drug it will be necessary to stop it for a time and trust to general treatment, with mild sweating in hot air. Other cases may require the mercury to be increased and a third class of case which has never yet had any mercury will require it to be rapidly exhibited. Generally speaking, most cases will require mercury and will very often do well by being given it at once in mild courses. As to dosage the majority of cases will do best on small, I may say minute, doses. For this purpose I give a weekly intramuscular injection of half a grain of metallic mercury as a maximum, never exceeding this but very often am satisfied with one-quarter or one-eighth of a grain per week.

For the cases which require to be dealt with rapidly, such as phagadænic syphilitic chancre, intramuscular injections of calomel are best, for although painful it is the most active of all mercurial salts, either soluble or insoluble. Of it I give one grain twice a week until its physiological effects are apparent, when I substitute mercurial cream for it.

How long to persist in specific treatment? My custom is, if all goes well, to give an injection once a week for a month at a time, then desist from all specific treatment for the following month. This system of a month's active treatment alternating with one of rest can be continued for a long time. I am of course speaking generally, as every case must be treated on its merits. During the period of active treatment should symptoms, as they often do, show signs of exacerbation the mercury must be stopped for a time, when the symptoms will probably improve and one can recommence specific treatment again. These exacerbations must be carefully watched for, and their occurrence is no indication for stopping specific treatment altogether, on the contrary, it is more the other way.

Next to specific treatment comes the important point of increasing and maintaining tissue metabolism. In these cases this is an absolute necessity, if one is to look for favourable results, and one cannot lay too much stress on it, for, beneficial as it is in an ordinary case of syphilis, it is far more in cases like those under consideration. It is the recognition of this which has doubtless been at the bottom

of the success which has attended the treatment at Aachen for so many years, for there metabolism is insured by the use of the natural waters of the place, which are both diuretic and slightly aperient; likewise we see the surprising improvement which sometimes follows a course of Zeitmann treatment, which consists, to put it briefly, of sweating, purging, with the administration of mercury for a limited number of days, and although this improvement may be only of a transient nature it shows the value of bringing about and maintaining tissue change.

There are various ways in which tissue change can be brought about, the best being with the aid of radiant heat baths, but these are not always within range. The method which for some years I have adopted, and which is the one in use in the Military Hospital, Rochester-row, is of the simplest kind. The hot air is generated by a small Bunsen stove (gas); this is placed under the chair the patient is seated on. The latter and apparatus are then enveloped, with the exception of the head of the patient, in a flannel waterproof sheet; in this way the temperature can be very readily brought up to between 160° and 200° F. The patient is allowed to remain in this for not more than five minutes and he gets one of these baths at least every second day. As above stated, I cannot speak too highly of the necessity of insuring tissue change in all cases of syphilis, but more especially in these cases of virulent syphilis is it of the greatest importance. Besides the value of tissue metabolism in the treatment of syphilis it must also be remembered that through it we are enabled to continue mercury more regularly and continuously than otherwise.

Iodide of potassium.—At the outset of these virulent cases of syphilis iodide of potassium is of little avail and does more harm than good, but as the case progresses its efficacy is far more marked than in a similar stage of an ordinary case of syphilis. No doubt as with mercury so with potassium iodide: it has to some extent been brought into disrepute through the far too reprehensible practice that exists of giving it as a matter of course, either by itself or in conjunction with mercury, in all cases of syphilis, with little reference to the patient's condition or progress. In these virulent cases iodide of potash must be given with great care and circumspection. It should be given in intermittent courses of increasing doses for not more than ten days at a time; if continued beyond this it appears to lose its beneficial effects and then only acts as a constitutional depressant, which is the last thing to be desired. Given in the way suggested iodide of potassium is most valuable in virulent syphilis, mitigating in a most marvellous way the various bone and skin lesions, to say nothing of the later syphilitic affections.

Iodipin.—This is used as a substitute for potassium iodide. It is a combination of iodine and sesame oil. It is prepared in two strengths—i.e., a 10 per cent., which has been given internally in gelatin capsules, and a 25 per cent., which is the usual preparation used. It is given hypodermically in doses of from 15 to 20 cubic centimetres for ten consecutive days. The syringe used for these injections must be capable of holding at least ten cubic centimetres and the needle should be fairly long (eight centimetres) with a large bore. Iodipin is a viscid fluid which will require to be heated to at least body temperature before being injected. The advantages claimed for iodipin over iodide of potassium are that it is more slowly absorbed and very much more slowly excreted, besides acting without being a depressant or interfering with the digestion. The injections are non-toxic and quite painless. I have had a good deal of experience with this drug and I may say that I am very favourably impressed with it, more especially in the cases under consideration.

Iodogelatin.—This is a similar preparation to the above and I saw it extensively used in Milan and Pavia, where it was spoken very highly of. It is certainly clean and more easily used than iodipin.

Local lesions.—For chronic lesions of the mucous membrane nothing is better, taking it generally, than chromic acid and its solutions. A good procedure is to paint the lesion first with a 5 to 10 per cent. solution of chromic acid and immediately afterwards apply either the solid stick or a 30 per cent. solution of nitrate of silver; this forms chromate of silver.

To some of the severe mucous ulcers acid nitrate of mercury is the best application; this to be applied every fifth day. For phagedænic sores I find nothing better than the application of crude chromic acid; this is especially the case in phagedænic sores attacking the glans penis. The tissue of the glans will be rapidly destroyed unless urgent

measures are at once taken. The patient ought to be put under an anæsthetic and the crude chromic acid applied; a black slough will result which can be removed by poulticing with charcoal. The chromic application may need to be resorted to more than once and should be continued until all tissue destruction has disappeared. Acid nitrate of mercury and nitric acid fort. are also useful. After separation of the slough iodoform dusted on is best. Some ulcers are best treated by continual bathing in hot boric or sublimate solutions, but all large chronic ulcers are to be treated on general surgical principles—i.e., rest, cleansing, opening up pockets and sinuses, and securing good drainage; for gummata soothing application at first and later some stimulating preparation. Bone lesions are always troublesome and will need constant attention to prevent serious disfigurement; at first soothing applications are best; should ulceration take place scraping with a Volkmann's scoop ought to be resorted to. The early removal of a sequestrum ought always to be attempted.

The following are the notes of some cases of what would be classified as "virulent," but it will be seen that in the majority of them the disease assumed its severity as the result of some other cause rather than of the inherent intensity of the virus of syphilis itself.

CASE 1.—The patient was admitted into the Military Hospital, Rochester-row, on Sept. 9th, 1905, as a free patient, having been discharged from the service as "permanently unfit." He had contracted a primary sore at Poona, India, in August, 1904; this was followed in a fortnight's time by a secondary eruption on the face. Soon rupial sores appeared on the legs, the shoulders, and the arms, and a large ulcer attacked the upper lip which it very soon destroyed. The patient had remained in hospital until March, 1905, when he was invalided home to Netley. There, although his general health improved somewhat, still he remained very cachectic and anæmic whilst ulceration proceeded at different points. On arrival at Rochester-row Military Hospital the patient, who was much debilitated, was cachectic and anæmic. His weight was seven stones. His face was a mass of old and fresh ulceration, the upper lip was entirely destroyed, and he was badly scarred all over.

According to the syphilitic case sheet, whilst in India the patient had received two intramuscular injections of one-third of a grain of a solution of perchloride of mercury which caused such pain and swelling that this line of treatment was abandoned and henceforth he was treated mostly by the internal administration of a solution of perchloride of mercury and iodide of potassium. At Netley iodide of potassium was freely given and he went through one course of Zeitmann's treatment (with doubtful result). At Rochester-row Military Hospital for the first fortnight all specific treatment was stopped, he was put on the most generous diet he could take, and with this was given one ounce of sanatogen daily. He was given a hot air bath every second day to facilitate tissue change and eliminate any accumulation of mercury which might be present. At the end of the fortnight he received an intramuscular injection of one-third of a grain of metallic mercury once a week and this line of treatment, together with intermittent courses of iodide of potassium, was continued for three months when he was discharged from hospital apparently free from the disease. During his stay at Rochester-row Military Hospital he increased his weight by two stones and his general health improved in a wonderful way. Local applications of acid nitrate of mercury and chromic acid 40 grains to the ounce were made to the ulcers. The probable cause of the severity of this case was poor constitutional physique added to debility at the end of a spell of hot weather in India.

CASE 2.—The patient was admitted to the Military Hospital, Rochester-row, on Sept. 9th, 1905, from the Royal Victoria Hospital, Netley. He had contracted a sore at Poona, India, in November, 1903. The sore was shortly followed by a badly ulcerated throat and the mouth and gums became involved and the two front teeth of the upper jaw fell out. He was invalided home to Netley in March, 1904, when, although the throat continued to give trouble, no fresh symptoms, developed until November, 1904, when an ulcer formed on the upper lip which spread to the nose, the alæ of which it rapidly destroyed and at the same time the palate bone began to necrose. Serpiginous ulcers developed on the face, the legs, and the arms. Under treatment the progress of the disease had been more or less checked. On admission at Rochester-row Military Hospital his condition

was as follows. There was profound cachexia with great debility, the alæ of the nose and the upper lip were entirely destroyed, the palate and the nasal bones were exfoliating, and the ulceration was still present on the face, the scalp, the arms, and the legs.

The treatment in India had consisted almost entirely of the administration of iodide of potassium as it was stated that "any attempt at giving mercury had to be abandoned" owing to the ill-effects which it had. At Netley, besides the internal administration of mercury and iodide of potassium, the patient had gone through four courses of Zeitmann's treatment which latter was said "not to have been very successful," as although the patient improved for the time he rapidly relapsed. At Rochester-row Military Hospital, to begin with, all specific treatment was stopped, he was given a hot-air bath every second day, a generous diet with one ounce of sanatogen daily together with sarsaparilla, malt, and cod-liver oil and later he received a weekly intramuscular injection beginning with one-third of a grain of metallic mercury, and this was eventually increased to one grain per week. A sequestrum from the palate bone was removed and all ulcers were treated locally. The patient made an excellent recovery and after being fitted with a palate and false nose was discharged from hospital on Feb. 27th, 1906. During his stay in hospital he had gained nearly 3 stones in weight.

In this case it is hard to account for the disease becoming so virulent as the patient was of good physique and bore an excellent character. One peculiarity is to be noted—viz., the virulent relapse which took place after the patient had been under treatment at home and doing well for some months.

CASE 3.—The patient was admitted into the Military Hospital, Rochester row, from Netley on Sept. 9th, 1905. He had contracted a primary sore at Hong-Kong in November, 1902. No signs of secondary infection appeared until June, 1903, when he was quartered at Singapore, where rupial ulcers developed on the legs and the body. It may be mentioned that he had suffered much from malarial fever both in Hong-Kong and at Singapore. Whilst he was at the latter station he was continually in and out of hospital, the ulcers healing up and breaking out again and again; he became very debilitated and was invalided home to Netley in June, 1904. Whilst he was there the ulceration continued and extended to the face and the scalp and the tongue became deeply ulcerated; debility and cachexia were well marked. On arrival at Rochester row Military Hospital ulceration was found to be still present on the body and the face and especially on the tongue which was much thickened. The patient had great difficulty in taking any food on account of the pain; there was much debility. Whilst in hospital at Rochester-row he had frequent attacks of ague, and plasmodium was detected in the blood. His weight was eight stones.

At Singapore mercury and iodide of potassium had been given internally in combination for various periods; at Netley the same drugs had been administered with four courses of Zeitmann's treatment (the latter appears to have done good for a time but the patient relapsed very soon after each course). At Rochester-row Military Hospital full courses of quinine hot-air baths were given and the patient was put on a nourishing diet as he could take with one ounce of sanatogen and chloride of calcium in 20-grain doses thrice daily; afterwards a weekly intramuscular injection of mercurial cream was ordered commencing with half a grain, finally rising to one grain. He was also given intermittent courses of iodide of potassium 60 grains per day. He underwent two courses of ten days of iodipin. The ulcers were treated locally with chromic acid 40 grains to one ounce. The patient made an uninterrupted recovery and was discharged from hospital on Feb. 1st, 1906, apparently well. His weight on discharge was 10 stones 7 pounds.

There is every reason to believe that the presence of malaria was the cause of the disease taking on the virulence it did in this case. Quinine worked wonders in the cure.

CASE 4.—The patient was admitted into the Military Hospital, Rochester row, from Netley on Sept. 9th, 1905. The history of this case is an instructive one. The patient had contracted a sore whilst serving in India in 1892, which was followed later by eruptions on the face and the back. Under treatment these disappeared. He had no further sign for three years, when the little toe of the left foot became swollen and painful; this finally resulted in the metatarsal bone of the toe having to be removed. He was sent home

and invalided out of the service in 1896. In the interim, until 1901, he was employed as a railway porter, during which time he remained in good health, having had no return of the disease. In 1901 he re-enlisted and was sent to Malta. In July, 1902, a swelling appeared on the right malar bone, which subsided under specific treatment but reappeared in March, 1903; suppuration set in and necrosis of bone resulted and the malar bone was removed. Then the nasal bone became similarly affected and the bridge of the nose fell in. He was invalided home to Netley at the end of 1903 when ulceration and necrosis of the frontal and palate bones set in and an operation for removal of the sequestrum was performed. He was eventually invalided out of the service and was transferred to Rochester-row Military Hospital for further treatment. The patient's condition on admission at the latter hospital was one of debility and great emaciation, with cachexia and anæmia. His weight was 8 stones. The bridge of the nose and the right malar bone were destroyed. Necrosis was still proceeding in the skull (right parietal) and palate bones. The stench from this patient was overpowering.

Nothing could be learnt as to the treatment adopted so long ago as 1892, but at Malta in 1902 the patient had had mercury internally and by vapour bath and also large doses of iodide of potassium. At Netley specific treatment had been given internally and by inunction, as well as six courses of Zeitmann's treatment. At Rochester-row Military Hospital the treatment consisted, first, of tonics, hot-air baths, good nourishing diet, with sanatogen and sarsaparilla. Afterwards the patient received regularly a weekly injection of metallic mercury, half a grain, rising to one grain; iodide of potassium appearing to aggravate the symptoms he received ten subcutaneous injections of iodipin. The palate bone was removed, the right parietal was scraped, and chromic acid was applied. A good recovery was made and the patient left the hospital on Feb. 10th, 1906, in comparatively good health. He had gained 2 stones 7 pounds in weight whilst at Rochester-row Military Hospital.

The chief point of interest in this case is the fact of the disease having remained practically dormant from 1896 to 1902, when it re-asserted itself on the patient being exposed to the enervating climate of a summer in Malta. The man evidently had never had any prolonged or thorough course of treatment and it goes to prove once more the absolute necessity of this in all cases. This patient's physique was very good.

CASE 5.—The patient was transferred from Netley to the Military Hospital at Rochester row on Feb. 19th, 1906. He had contracted a primary sore at Rangoon in February, 1904, which was followed by a roseolar rash, and this was succeeded in a month's time by rupia, which latter appeared on the body and the face; at the same time both knee-joints became painful and swollen. After some months the patient became so debilitated and cachectic that he was sent home to Netley, where he arrived on Dec. 31st, 1904. His condition on admission to Rochester-row Military Hospital showed great debility and cachexia. Both the knees were swollen and partially ankylosed, and there were scars of ulcers scattered over the body, whilst rupial ulceration was still proceeding over the face and the nose, the latter lesion resembling lupus. The patient's weight was 8 stones.

The syphilis case-sheet showed that whilst he was at Rangoon the patient had had some injections of perchloride of mercury, which, however, were stopped on account of the pain which they caused, and mercury in combination with iodide of potassium was given internally for some months. At Netley he had had several courses of Zeitmann's treatment. (Transfer certificates stated: "Not much benefited by it.") At Rochester-row Military Hospital, to begin with, all specific treatment was stopped, hot-air baths, tonics, generous diet with sanatogen and sarsaparilla being substituted; later a weekly intramuscular injection of one grain of metallic mercury was given regularly and he received one course of iodipin (subcutaneously), 20 cubic centimetres per day for ten days. In a month's time he had made good progress towards recovery; the ulceration on the face had ceased and he had gained 8 pounds in weight. At the time of writing the patient looks, and apparently is, in robust health and is awaiting his discharge from the hospital. The mercurial injections are still continued.

In this case there was no apparent reason why the disease should have taken on the malignant character which it did.

CASE 6.—The patient was admitted into the Military

Hospital, Rochester-row, from Netley on Feb. 19th, 1906. He had contracted a primary sore at Delhi in March, 1904, which was followed almost at once by rupial ulceration on the body and the legs, pericolicitis, cachexia, and general debility. He was in hospital for a year more or less when he was sent home to Netley where he arrived in May, 1905. Then besides other troubles he got orchitis of both testicles (the right being removed).

On admission at Rochester-row Military Hospital the patient's condition was bad; he was much debilitated, cachectic, and emaciated, his weight being 7 stones 7 pounds. He was suffering from ozæna and ulceration of the nasal septum. The remaining testicle was much enlarged and was hard and painful.

In India the patient had had various courses of mercury by inunction and by administration internally in combination with iodide of potassium. At Netley tonics, &c., with iodide of potassium had been given and the patient had gone through four courses of Zeitmann's treatment. At Rochester-row Military Hospital the treatment had consisted primarily of hot-air baths, hypophosphates, and sarsaparilla, with generous diet and sanatogen, and later of weekly intramuscular injections of mercurial cream and a regular course of iodipin. The patient made a good recovery, putting on weight from the first. The ozæna ceased, the ulceration healed, and the remaining testicle became gradually reduced in size and all pain and tenderness went from it. The patient was discharged on May 22nd, 1906, his weight then being 9 stones 7 pounds.

The severity of the disease in this case was probably very much influenced by the patient's wretched physique, added to enervating climatic conditions.

CASE 7.—The patient was admitted to the Military Hospital, Rochester-row, from Netley on Feb. 19th, 1906. He had contracted a phagedænic sore at Barbados in July, 1904, which was soon followed by general rupial ulceration over the body and the limbs. These conditions were soon followed by asthenia with consequent anæmia, emaciation, and general debility. He was sent home to Netley in November, 1904. Then ulceration continued and the nasal and palate bones became involved. On admission at Rochester-row Military Hospital the patient's condition was one of gravity. His weight was 6 stones 7 pounds. He was quite bed-ridden. There were rupial ulcers on the body and the face and caries of nasal and palate bones. The right knee was ankylosed, swollen, and painful. Asthenia, anæmia, and extreme emaciation and debility prevailed and there was deep ulceration of the pharynx.

The treatment in Barbados had consisted of alternating courses of mercury by inunction and internally, the latter combined with iodide of potassium. At Netley, besides tonics, &c., the patient had undergone six courses of Zeitmann's treatment (which appeared to do good for the time being but relapse taking place almost at once). At Rochester-row Military Hospital the patient was first of all treated with hot-air baths, sarsaparilla, malt and cod-liver oil, and generous diet with sanatogen. Later he received a weekly injection of a quarter of a grain of metallic mercury and had one course of iodipin. He made good progress, but the ulceration of the throat threw him back. He is doing well again now, but his is a bad case. He suffered much from epistaxis, for which he was given 20 grains of chloride of calcium three times a day.

This patient's physique was of the poorest possible kind, which made him an easy prey to syphilis, especially when the virus was of a virulent type from the beginning.

CASE 8.—The patient, who was admitted into the Military Hospital, Rochester-row, from Netley on Feb. 19th, 1906, had contracted a sore at Agra in April, 1904, which was followed by a papular eruption on the body and the face a few weeks later. A few rupial sores appeared on the face in six months. The septum of the nose began to ulcerate and the patient got much run down and debilitated. The palate bone then became engaged, as also the nasal bone, and necrosis proceeded rapidly and both bones were soon destroyed. At Netley the necrosis continued, destroying the whole of the palate bones and partly the ethmoid bone. The patient was in a most lamentable condition when admitted to Rochester-row Military Hospital, half his face being destroyed, and the base of the skull being exposed. Ulceration was still proceeding and there was naturally much debility and emaciation.

The patient stated that he had had injections of mercury in India (this is not certain), and much mercury and iodide

of potassium internally. At Netley he had had six courses of Zeitmann's treatment with various local applications to the ulcerating surfaces. At Rochester-row Military Hospital the treatment consisted of hot-air baths, tonics, and generous diet, with sanatogen, sarsaparilla, and iodide of potassium, and later of very small weekly injections of mercurial cream. The patient has made simply wonderful improvement and has practically recovered, but his disfigurement presents one of the worst cases I have ever seen. He has gained two stones in weight since admission.

The severity of this case can be traced to debility during the excessively hot weather at Agra throughout the summer in which he contracted the disease.

CASE 9.—The patient, who was admitted to the Military Hospital, Rochester-row, from Netley, on Oct. 27th, 1905, had contracted a hard sore at Maymoyo, Burmah, on April 28th, 1904. Three months later a papular rash appeared on the body and this became rapidly pustular, the patient went from bad to worse, and suffered severely also from malarial fever. He remained in hospital for some months, was then embarked for England, but on reaching Bombay had to be taken into hospital owing to extreme debility. There he remained for about two months, when he was sent home to Netley, where he arrived on Jan. 20th, 1906. At Netley his condition was marked by debility and cachexia and there was rupial ulceration on the back and on the limbs. The left knee was swollen and painful. On admission at Rochester-row Military Hospital he was quite bed-ridden; he was very anæmic and cachectic, there were ulceration of the septum of the nose and pharynx, and rupial ulcers on the buttocks, and the left knee was stiff and painful.

In Burmah the patient had had mercury by inunction and internally combined with iodide of potassium, whilst at Bombay he had received injections of perchloride of mercury, which he stated were stopped on account of the pain which they caused. At Netley iodide of potassium with mercury internally had been administered and the patient had gone through two courses of Zeitmann's treatment. At Rochester-row Military Hospital at first all specific treatment was stopped and tonics, sarsaparilla, and hot-air baths were substituted and good diet with one ounce of sanatogen per day was ordered. Later weekly injections of metallic mercury were given and two courses of iodipin. The patient made a slow but steady recovery. Quinine was also given in continued doses before the mercury.

No doubt in this case malaria was the chief factor in causing the disease to assume its severity.

CASE 10.—The patient was admitted into the Military Hospital, Rochester-row, from Netley for further treatment on Feb. 19th, 1906. The history of the case showed that the patient had contracted a primary sore at Sheybo, Burma, in July, 1904, which had been followed in three weeks' time by a sore throat and a copper-coloured rash on the body and later by rupial ulceration on the trunk, great wasting, and general debility. He was sent home to Netley on Feb. 2nd, 1905, where his chief trouble consisted of painful nodules on the shins and the clavicles. When admitted to Rochester-row Military Hospital he was bed-ridden and cachectic, and in an emaciated condition. His weight was 8 stones. Rupial ulcers were scattered over the body and there were nodules on both shins, which were very painful.

The treatment in Burma had consisted of the internal administration of mercury combined with iodide of potassium, tonics, &c. At Netley, besides other treatment, the patient went through four courses of Zeitmann's treatment (which apparently did some good for a time). At Rochester-row Military Hospital the treatment first of all consisted of hot-air baths, tonics, sarsaparilla, malt, and cod liver oil, with the best diet that he could take and sanatogen. Later mercurial injections, one grain, were administered weekly. The patient had one course of iodipin by subcutaneous injection. He made an excellent recovery whilst in hospital, gained 2 stones in weight, and was discharged apparently fit on April 15th, 1906.

This man was of intemperate habits which might easily have accounted for the severity of his case.

The above ten cases will suffice to illustrate what is nowadays known as "virulent syphilis." It will be noticed that in each of them a factor other than the actual virulence of the poison itself can be distinctly traced and the extreme importance of this as a guide in the treatment of the case is clearly brought out. They further go to show how amenable

even this class of case is to treatment carried out on scientific and systematic lines.

The happy results attained are most encouraging and lend a hope that in the intramuscular method of treating syphilis we are in possession of a most effective weapon for successfully dealing with not only ordinary cases of the disease, but also (when modified as above described) with those of virulent nature.

INTERSTITIAL NEPHRITIS AND CIRRHOSIS OF THE SUPRARENAL CAPSULES IN AN INFANT FIVE WEEKS OLD.¹

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ALTHOUGH physiological albuminuria is common enough in the newly born, yet albuminuria secondary to obvious renal disease appears to be quite the exception, and it is still held by many that interstitial nephritis in infants is one of the rarest of diseases. It may be, however, that kidney troubles are not so rare in them as we have hitherto supposed to be the case, and that more careful observations would increase our knowledge, and, at the same time, alter our present views. There is no doubt that the infantile kidney may be seriously diseased and yet not show any pathological changes whatever to the naked eye, and would therefore at the necropsy be deemed normal and recorded as such. It follows, therefore, that these organs cannot be pronounced sound on a mere ocular inspection at the post-mortem examination, and that it will be necessary in the future to revise our methods of inspection, and rely more upon the microscope than has hitherto been the custom. The following case is not only an example of an apparently uncommon condition of the kidneys in a newly born infant, and probably of intra-uterine origin, but it illustrates changes in the suprarenal capsules which I have not met with before, and which I cannot recall as having read of in the literature.

The patient, an infant, aged five weeks, was "healthy and well nourished" at birth. At about the tenth day he "began to pine." He was breast-fed and was an eight months' child. A brother of the patient had died from "eczema." The patient was admitted into the North-Eastern Hospital for Children on Jan. 18th, 1906, suffering from "diarrhoea and vomiting." The stools were green and contained curds and in one there was a small amount of blood. Previously to admission there was a history of passing blood by the bowel and also of blood issuing from the penis.

On examination the face was found to be puffy and the patient's back was very oedematous and pitted on pressure. The hands and feet pitted also, the latter especially, and the upper extremities were oedematous as far as the shoulders, and the lower extremities as far as the trunk. The abdomen was very distended with wind, there was some free fluid there, and the skin was pale. Examination of the heart revealed a systolic bruit which was heard best at the left base; it was not especially loud there, but it was conducted all over the front of the chest, though inaudible over the back when the child was crying. The pulse could not be felt at the wrist. The lungs were normal. The urine was albuminous. The testicles were neither large nor hard. The patient vomited seven times on the date of admission into the hospital, and once or twice daily on the preceding days. The bowels were opened once or twice daily. He died on the 23rd and a necropsy was made on the same date. A state of mixed broncho-pneumonia and collapse was found down the back of the right lung. In spite of the abdominal distension the apex of the heart was in the fifth interspace. On opening the abdomen a quantity of clear fluid amounting to four and a half ounces flowed away. The peritoneum was shiny and there was nothing to indicate acute peritonitis, but in parts there were appearances that suggested chronic peritonitis. In places there appeared to be some alteration over the coils of the small intestine where the peritoneum

seemed thickened; there was a network of vessels surrounding the coils, but the network was coarse, not fine, such as is seen in acute inflammatory conditions, while the peritoneum over the intestines had not the bulky opacity seen in chronic peritonitis. The mesentery in the neighbourhood of the congested area was pigmented. Many of the glands in the vicinity were also pigmented. There were many adhesions between the liver and the abdominal wall. Anæmic patches were seen upon the liver but the organ appeared normal to the naked eye. The spleen was enlarged to twice its normal size. The kidneys were normal to the naked eye, but microscopically the structural alterations were as follows: the capsule was thickened, interstitial changes showing chronic inflammation were readily seen, the glomeruli were atrophied, and the epithelium of the tubes was shed and necrotic, the changes being most marked in the cortex and here some thickening of the small arteries was detected. The suprarenal capsules were both adherent to the kidneys, and they were enlarged, and of an opaque, yellowish-white colour. Sections of the right kidney showed what appeared to be an old hæmorrhage. Microscopically chronic inflammatory changes were found. The liver presented some peculiarities microscopically. There were large numbers of lymphocytes and other leucocytes in the veins, not in the arteries, and also in the capillaries. The pancreas was normal. The brain was not examined.

There were neither history nor stigmata of syphilis in the infant, but the lesions discovered post mortem were doubtless of a syphilitic nature and most probably of extra-uterine origin. Cases of renal disease in infants have been reported to the Society for the Study of Disease in Children by Dr. Henry Ashby,² by myself,³ and by Dr. G. A. Sutherland and Mr. J. W. Thomson Walker,⁴ in this case of a girl, 16 months old. Dr. Ashby's patient was four weeks old; the child, like my patient, was anasarcaous. On section the cut surface of the kidney was found to be pale and fatty-looking, and there was very little difference between the cortex and the medulla. The microscopical examination showed "choked" kidneys, with extensive epithelial and fibroid changes, and the small arteries appeared to be thickened. There was no evidence of syphilis, but it appeared to me at the time that the specimen was shown that it might, notwithstanding the lack of positive evidence, be of syphilitic origin. The case which I reported was that of a dropsical and syphilitic infant five months old. The urine was albuminous and contained hyaline, epithelial, and granular casts. Coarse alterations were not obvious in the kidneys. Microscopically there were catarrhal changes, glomerular over-nucleation, and thickening of the small arteries in the neighbourhood of the glomeruli. I also, when recording this case, narrated the case of another syphilitic and dropsical infant, aged five weeks, whom I had seen some years before. I published an account of this case in my book on "Syphilis in Children." The patient had glomerulitis and interstitial and catarrhal nephritis, with hyaline and epithelial and a few blood casts. The kidneys in this patient also appeared to be healthy macroscopically, and this fact was then commented upon. The case reported by Dr. Sutherland and Mr. Thomson Walker was that of a syphilitic child, 16 months old. On one occasion the urine was drawn off by catheter and contained a small amount of albumin, but attention was not called by the symptoms to the kidneys, which post mortem showed marked interstitial changes widely separating the tubules. Many tubules were filled with casts of homogeneous material or masses of round cells. The majority of the glomeruli displayed no change; some showed a slight increase in their nuclei. They also on that occasion narrated another case of a syphilitic girl, aged eight months, whose kidneys showed similar interstitial changes to the above, but the glomeruli and tubules were normal. In the discussion that followed I gave also the history of a syphilitic infant, aged six months, who had albuminuria and anasarca of six weeks' duration. The patient was lost sight of, but probably died.

Although cases of infantile renal disease have been previously brought to the notice of the Society for the Study of

² A case of Nephritis in a Newly Born Infant, Reports of the Society for the Study of Disease in Children, vol. i., pp. 129-132.

³ A case of Syphilitic Nephritis in an Infant, aged five months, Reports of the Society for the Study of Disease in Children, vol. iii., pp. 286-295.

⁴ A case of Syphilitic Endarteritis and Nephritis in an Infant Reports of the Society for the Study of Disease in Children, vol. iii., pp. 134-146.

¹ A paper read before the Society for the Study of Disease in Children on May 4th, 1906.