

The peculiar and characteristic bodies in question display, moreover, a special structure which is emphatically not that of tubercle, cancer, or the like; or, indeed, of other known pathogenic bodies, either homologous or heterologous; but which may yet, as I think, be properly recognised. They sometimes form, to all appearance, so small a proportion of the altered disease-mass that we might hesitate to attribute to them so important a rôle as is here implied; yet their presence and growth are doubtless a cause of much and peculiar irritation; and their actual number is always considerable, notwithstanding their persistent drain outwards, and departure from the loculi in which they are formed. Finally, as they may, so far as my experience goes, invariably be found in the innermost recesses of the tunneled tissues, one cannot suppose that they, or their germs, had accidentally, as it were, dropped upon a foot, already riddled with holes, from which pours outwards a continuous if slight discharge, and had afterwards become developed or enlarged. This supposition and the like are on mere physical grounds simply untenable; and that fungus-spores could reach the foot through the general circulation is so obviously unlikely (although the only alternative), that this idea, too, may be dismissed.

Let me add that, in order of time, the fungi are to be seen at the moment when a sinuous opening is formed; and the latter seems to be produced for the purpose of giving exit to the particles. The fact I have myself established; and the inference is a necessary one.

That the foot disease, of any form, begins in a sore or abscess, whence it may spread into the foot, would not, I repeat, appear to be usual, or even frequent; on the contrary, the whole progress of the parasitic growth is clearly determined by its own innate capacity of spreading; this alone produces those tunnels and cavities in the tissues which exist in no other disease, and which are not here revealed to our view until the growth is matured, and its products come to be discharged at the orifices of the sinuses. That the channels may persist after the whole growth has been expelled may seem to be theoretically possible, but so far as my inquiries go, they lead me to assert that the event is unknown; and I cannot even conceive of a true mycetomatous affection in either hand or foot, being, at any stage, devoid of its attendant characteristics. A combination of the fungus disease with other local maladies has yet to be made out. When, after careful searching, neither black, tinted, nor pale particles are to be found in any part of a peculiarly disorganised foot, I pronounce the affection to be different from mycetoma; and the observer of such a malady as this would, in my opinion, be entitled to proclaim a rare discovery, for he would add to our nosological lists a local affection wholly inexplicable in its origin, character, and course. Let the successive features of the disease whose real nature I am endeavouring to disclose be patiently considered in the light of adequate collateral knowledge, and I doubt not that similar views to my own will be adopted; only there must be exercised the requisite means and method, first of inquiry, next of observation, and lastly of inference, for in this example the argument is sometimes a cumulative one, and always the more emphatic when most widely based.

I have referred chiefly to the pathological anatomy of mycetoma for evidence on which to found a right conception of its true nature, and now add that such evidence is but one link in a series of data, which, like a connected bond, renders indissoluble fact and conclusion. Want of space would prevent my here discussing at length the views and opinions of other observers, and I must be content with again urging the importance of seizing upon the typical features of this malady, duly discriminating and avoiding crude analogy.

Were the whole history of mycetoma unravelled, it would probably be as hard to follow as is that of the entozoic

maladies, and, as a matter of fact, already the complaint has revealed an identity with organisms whose metamorphoses are to all still mysterious.

I need not indicate, in detail, the points which seem the more obscure, but would here remark that the relation of the black and pale fungus particles is yet but indifferently elucidated; it is not such as has been sometimes thought, on pathological evidence alone, and to future observers must be relegated the work of fully establishing the connexion which undoubtedly exists between these organisms, as forms of one common growth. So far as I have advanced, it appears that the two are substitutionary, the one of the other; that the co-existence of sclerotia and malacotia is not to be anticipated; and that a divergence of development takes place, under circumstances as yet unknown to me, at the commencement of growth, which is never restored until from the several fruit-products, the parent mould again springs forth outside the body of its temporary host.

In conclusion, despite the obscurities which yet attend some parts of the subject, I cannot but maintain, upon these several grounds, both clinical and astronomical, my original thesis—namely, that the foot disease of India, in all its varieties, is a single and well-defined affection of a purely parasitic nature.

I may afterwards endeavour to show that this parasite is of entophytic character; but I would here express my desire that due weight be allowed to the collected data which have already been submitted for consideration, because upon them alone might be based a determination of the kind of malady presented in the complaint under notice.

Addendum—In the comprehensive Nomenclature of Diseases, recently compiled under the auspices of the Royal College of Physicians of London (1869), in the Appendix containing a list of Human Parasites, subdivision Entophytes, is found the following identification: *Chionyphe Carteri* (Berk.)

DISEASE OF THE HIP-JOINT; EXCISION; CURE.

By T. EDWARD WILLIAMS, M.R.C.S.

D. L—, a drainer, aged thirty-six years, began to complain of pain in the left knee and stiffness in the hip in February, 1871, but not sufficient to prevent his partially working up to July of the same year, when the pain in the limb became so great as to oblige him to entirely abandon his employment, and take to a staff as a means of locomotion. *Quot homines tot sententiæ.* From this date many were the medical men consulted, and manifold the remedies used; but matters went on from bad to worse, and I saw him in November, 1872. He was then in a most emaciated condition, and bent in his doubles. There was very slight shortening of the affected limb, with almost entire loss of power in it; constant pain, most excruciating at night; and a fluctuating swelling occupied the anterior aspect of the thigh. There was no distinct crepitation.

The man had been brought to my surgery, a distance of three miles, in a cart, and, taking into consideration his debilitated condition, I did not deem it prudent to make an incision into the swelling (which I diagnosed as an abscess in connexion with hip-joint disease) at the time, but prescribed some morphia at bedtime, and sent him home, promising to visit him at my earliest opportunity. I saw him at his house on Nov. 24th, 1872, and opened the abscess, giving escape to an enormous quantity of stinking pus, which at the time afforded him considerable relief. I then ordered him to bed, applied extension, prescribed cod-liver oil, compound syrup of phosphates of lime, iron, &c., with the morphia to be continued at bedtime. He had much better nights from the morphia, but when not under its influence the pain around the hip and in the knee was something terrible, and in a few days he absolutely refused to have the extension continued, or to remain constantly in bed, declaring the position was intolerable and he was infinitely easier when up. He consequently rose during the day, and his most comfortable time was in the forenoon, after rising and relieving himself of the pus that had accu-

fungus disease; meanwhile I cannot but infer that the peculiar substance which attends the fungus particles of all kinds while growing within the foot, is greatly due to the decomposing or disintegrating action of the parasitic growth upon the normal textures of the body. I purposely do not enter upon theoretic discussion of many interesting topics connected with the disease, but may here remark that abundance of nutrition is at hand, and a high uniform temperature; and that under such conditions a fungus may well grow with vigour. It is possible, too, that some tissues (e.g., the adipose and the marrow of bones) may be special sources of the needed carbon, and hence be consumed more than others by the spreading entophyte.

mulated during the night, pressure behind the tuber ischii materially aiding this process.

At this time, in the early part of December, owing to swelling and tension on the outside of the thigh, another incision was made and a quantity of pus evacuated. The leg was shortening, but his condition on the whole was more comfortable than before lancing the abscess. I urged an operation, with a view of removing the diseased portions of bone, but this the patient was averse to.

On December 23rd, Dr. Talfourd Jones, of Brecon, saw the case with me, but was of opinion, as crepitation could not satisfactorily be made out, and as the dead bone was not reached by the probe, and the general condition of the patient somewhat improved, that operative interference should not then be attempted, and we resolved to temporise. The improvement, however, proved to be but transitory, and the pain and discharge wore the man to the lowest ebb of life, so that in the latter end of April, 1873, he sent for me and told me I might do any operation I chose, as "he felt sure he could live but a short time as he was." Accordingly, on May 2nd, assisted by my friend Mr. Fairles, of Montgomery, and my then assistant, Mr. D. D. Stewart, of the Liverpool Royal Infirmary, the man was put under ether, and I proceeded to operate.

Making a T-shaped incision and exposing the diseased parts, I found it necessary to remove the femur below the trochanter major and gouge out the acetabulum, taking away portions of the rami of the pubis, ischium, and tuber ischii. The wound was brought together with carbolic sutures and dressed with dry lint. The man was then removed to bed and extension made by means of weight and pulley. He stood the necessarily somewhat prolonged operation fairly, considering his weak state, and recovered from the effects of the ether without any sickness.

On Mr. Stewart's calling about 8 P.M. he found the patient had passed a tolerably comfortable day, and taken food well. In order to ensure a good night, he was given a hypodermic injection of morphia. I had to leave for London that night, and Mr. Stewart undertook the after-treatment of the case, and I have great pleasure in mentioning that to his unremitting and skilful attention at this critical period the success of the case is in no small measure due.

On my return from London, May 7th, I had a most excellent report. The man had been free from pain, had eaten well, and slept comfortably, and it will suffice to say that from this date (save a slight attack of subacute synovitis of the knee-joint, produced by the application of a bracketed long splint and undue extension, and soon subsiding under the use of the oleates of mercury and morphia,) the case made good progress towards recovery, the discharge ceasing, and the sinuses healing up, so that about the middle of September the man was able to rise and get about on a crutch and a stick in good bodily condition, and with a leg two inches and a quarter shorter than its fellow.

On Monday, November 3rd, he attended a fair held at this place, and was on his feet for several hours before he called on me; he did not complain of any ill effects from the exertion, is able to bear considerable weight on the leg, and has tolerably free motion at the hip.

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OBSERVATIONS

ON THE USE OF

ATROPIA IN PHTHISICAL SWEATING,

Made at the Royal National Hospital for Consumption, Ventnor, I.W.

By JAS. M. WILLIAMSON, M.B.,
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In 1872, Dr. Wilson announced in the *Philadelphia Medical Journal* that he had successfully treated four cases of phthisical sweating with the sulphate of atropia, and last year Dr. Fräntzel, of Berlin, published an account of a more extended series of researches. Since then, however, little or no attention appears to have been paid to the subject. The following is the result of some experiments which have been made with the drug in sixteen cases under the care of

Dr. A. H. Hassall at the Royal National Hospital for Consumption, Ventnor.

The sulphate of atropia is best prescribed in pill, with extract of gentian; watery solutions are not to be depended upon, for they soon spoil by keeping. The first dose should in no instance be larger than one-eightieth of a grain, and, guided by the results, the dose may if necessary be increased to one-sixtieth, or even one-fiftieth of a grain; but if this latter quantity be exceeded, well-marked symptoms of poisoning will almost certainly ensue.

In each of the sixteen cases in which the remedy was tried, the first dose produced a distinct effect on the perspiration, either wholly arresting it or materially diminishing it. In only one-fourth of the cases, however, was this effect direct and permanent; that is to say, only four patients, after using the pills for a varying number of nights, were able to omit the remedy without the sweating returning. But in these four the effect was lasting, for when seen two months after the cessation, each patient reported that he was still free from the slightest dampness. Of the remaining twelve cases, four found the benefit direct but temporary; that is to say, they obtained complete relief on those nights on which they took the atropia, but the perspirations returned if the pill was missed. In seven cases, although the eightieth of a grain at first diminished the sweatings, the dose had to be increased to maintain the effect. At last, however, the increasing habituation to the drug which characterised the sweats did not hold good of the toxic symptoms, for these became so marked that the remedy had to be abandoned in all the seven cases, without its having succeeded in putting a stop to the sweats in a single instance. Only one case remains, and here there appears to have been an unusual sensibility to the action of the drug. The eightieth of a grain distinctly lessened the profuse sweating each time it was tried, but after three or four attempts it had to be discontinued on account of the severe symptoms of poisoning to which it gave rise.

It will thus be seen that the remedy controlled the perspirations more or less in the whole of the sixteen cases; that the effect was direct and permanent in four; direct but temporary in four; beneficial but transitory in seven; and that it was inadmissible in only one instance. These results will be all the more striking when it is added that in many of the cases the sweatings had extended over a period of several weeks, and had resisted all the ordinary methods of treatment.

The toxic symptoms most frequently complained of were intense heat and dryness of the throat during the night, and indisposition for bodily or mental effort on the following morning. Vomiting sometimes occurred, but diarrhoea was not observed. In one case there was retention of urine for several hours. The pupil was sluggish in action, but distinct dilatation was not common except in those cases where one-fiftieth of a grain was administered. The patients often complained of dizziness and inability to read any print but that of large type.

It is well known that all efforts to check the night-sweats of phthisis too frequently fail; and although it is not urged that the sulphate of atropia is less uncertain than other remedies, it is believed that it will not be found inferior to them in obstinate cases, in some of which it was of much service after all other remedies had failed. The drug would probably prove of extreme value in combating the perspirations in those diseases (such as acute rheumatism) in which the sweating extends over a comparatively short period, and is not so inveterate as that in phthisis.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—The Quarterly Court of Directors of this Society was held in the rooms of the Royal Medical and Chirurgical Society, July 8th, Sir George Burrows, President, in the chair. There were two widows added to the list of recipients of grants, thus raising the number to sixty. There was, however, a diminution in the number of children, of whom three are in receipt of assistance from the Copeland Fund. The sum divided among the applicants for the present half year was £1279 10s. The expenses of the quarter were £107 2s., including an honorarium of 30 guineas to the Secretary, in recognition of his zealous and valuable services. Six new members were elected, one under the new bye-law by which a member may be proposed and elected at the same court.