THE TREATMENT OF ANKYLOSTOMIASIS WITH BETA-NAPHTHOL AND THYMOL.

BY

HARRY G. PHIPPEN, M.R.C.S.ENG., L.R.C.P.LOND.,
MEDICAL OFFICER, ZANZIBAR.

THE following notes on the treatment for ankylostomiasis which I have carried out for the past eighteen months in Zanzibar and Pemba, where the disease is very prevalent and known as "safuri" and "baridi," may be worth recording.

If the patients are debilitated and anaemic, as the majority are, before commencing the treatment proper I give them thrice daily a tonic containing ferri et ammon. citr., liquor arsenicalis, and liquor ammon. fort., which is continued in the intervals of treatment, and also afterwards until the patient is quite strong.

If possible I have them in hospital for preparation and treatment, or if they are unable to stay in hospital I get them to come in for one day weekly for treatment, which is as follows: In the evening I give a powder containing calomel 5 grains and sodium bicarbonate 10 grains. This is followed at 7 o'clock next morning with a draught of sodium sulphate 3 drachms, in water to 3 ounces. At 8 a.m. I give a mixture containing beta-naphthol 1/2 drachm, thymol 1/2 drachm, mucilage q.s., and water to 1 ounce. At 10 a.m. I repeat the beta-naphthol and thymol mixture, and keep the patients in bed until about 4 p.m., not allowing them any food or liquid whatever; after that time they are allowed fluid diet only for the remainder of the day. Those desiring to leave hospital may do so, to report again in seven days for treatment; but they send a specimen of their faeces on the day after leaving hospital for microscopical examination for the ova of ankylostoma. This is done after each treatment until free.

Of 171 cases treated I have been able to follow out the results of 116, the remainder not having reported for further treatment. The results are as follows: After one treatment, 34.5 per cent. were cured; after two treatments, 25 per cent.; after three, 17 per cent.; after four, 13 per cent.; after five, 6 per cent.; after six, 7 per cent.; after seven, 4 per cent.; after eight, 1 per cent. I have not given the fractions of the percentage, but have taken it to the nearest figure. In no case did I give more than eight treatments.

It is interesting to note that in some cases other well known treatments had been previously tried without effect, as the following cases will show:

Case 1.—After ten treatments of thymol ova were still present; the case was negative after three treatments with beta-naphthol and thymol.

Case 2.—After thirty-two thymol and three oil of eucalyptus treatments ova were still present; the case was negative after three treatments with beta-naphthol and thymol.

Case 3.—After three treatments with oil of chenopodium ova were still present; the case was negative after one beta-naphthol and thymol treatment.

Case 4.—After prolonged antimony treatment the case was still positive, but became negative after one treatment with beta-naphthol and thymol.

On examination of stools taken where the patient had no treatment after being (microscopically) free, the following results were found:

After one treatment the result of examination was negative after 7 months in one case, and after 4 months in another, but was positive after 5 months in a third.

After three treatments, two cases showed a negative result after 3 and 4 months respectively.

Of two cases which received four treatments, one was negative after 4 months, the other positive after 3½ months.

Of three cases which received five treatments, the first was negative after 2½ months, the second after 3 months; the third was still positive after 2 months.

One case which received seven treatments was negative after 2 months.

Two mental cases of melancholia and senile debility died after the second treatment, but showed no ill effects succeeding the treatment. In no single instance did I find the treatment affect the patients, and on the day following they were able to continue their work in the ordinary way.

It is difficult in such places as this to follow up one's patients as one would wish, and, moreover, the environment of the natives is one in which they are very likely to become reinfected after being free, because of their habits in

going about barefooted and the frequent sores on their feet owing to jiggers, etc. I think, however, that a result showing roughly 89 per cent. of cures in four treatments will justify a trial of the method.

I am indebted to Dr. B. Spearman, M.O.H. Zanzibar, and to his bacteriological department, for their examinations of the specimens of the above cases.

A SPLINT FOR MEDIAN PARALYSIS.

BY

WALTER MERCER, F.R.C.S.EDIN.,
EDINBURGH.

PHYSIOLOGICAL rest is a prime necessity in the recovery of a paralysed muscle. This is brought about by the mechanical approximation and retention of its two points of insertion so that its opponent is conversely elongated.

One of the difficulties hitherto in the treatment of a median lesion has been the proper retention of the median small thumb muscles in a properly relaxed position so that regeneration can take place with the greatest chance of success. A majority of cases do not show a satisfactory return to power of the opponens and short abductor of the thumb, as is evident in the

FIG. 1.—Showing the extreme flattening of the hand with the thumb "flush" with the palm and no power of apposition. Short thumb muscles are accordingly stretched.

number of cases of median lesions with a flat thenar eminence and inability to oppose the thumb to any of the other fingers. This is one of the most important movements in the useful hand, and is necessary for all the fine movements of the hand. Without it the utility of the hand is impaired by at least 30 per cent. As Mackenzie aptly puts it, the thumb represents one blade of a dissecting forceps.

The only method so far of in any way relaxing the short thumb muscles is by means of adhesive strapping applied round the thumb and the ulnar side of the hand. This has two important disadvantages. The skin of the hand, already without its beneficent trophic influence, rapidly becomes irritated and often becomes broken so that the adhesive plaster has to be removed. When wearing the plaster the patient's hand is entirely put out of action and he cannot use it for gripping, while the rubber solution in warm weather runs and becomes caught in anything he may attempt to grip. So irksome is it to the patient that it is usually worn only very intermittently.

The splint to be described has neither of the advantages that its only rival has, for the skin is amply protected by its chamois leather lining, while it in no way interferes with function, but rather aids it in making opposition of fingers and thumb possible.

The essential part of the splint (called the "Opponens splint") is a light duralumin plate which extends from the fifth metacarpal to the first and extends the length of the metacarpals except in the thumb, where it is rather longer, going just over the metacarpo-phalangeal joint. The plate is accurately moulded round a cast of the hand which has been made with the thumb in the opposed position in the same axis as the middle finger and with the first metacarpal abducted from the second as far as possible—that is, up towards the face of the patient when the forearm is supinated.

FIG. 2.—Splint applied. Thumb opposed and opponens and abductor relaxed. In useful position and splint not preventing use.

FIG. 3.—Drawing of the duralumin plate when flattened out. The thumb-piece is attached to the hand-piece at an angle of 140 degrees.

Description.

It is in this position that we get complete physiological rest for the small median muscles of the thumb.

The duralumin plate is then encased in leather and with a special pocket for the thumb part. The covering is ordinary glove leather and the lining is chamois. Along the ulnar border is the opening, which is closed after putting on by lacing through eyeholes. The photographs show the efficiency of the appliance. In Fig. 1 the thumb is flat and flush with the hand, giving little hope of any recovery taking place in the muscles. Fig. 2 shows the correct position of rest and also the fact that the hand can be easily used while the splint is worn. A rough drawing of the duralumin splint when flattened out is given to show the shape (Fig. 3).

I have to acknowledge the valuable assistance of Mr. Arch. Young, Forrest Road, Edinburgh, who makes the splint.

THE RELATION OF SCIATICA TO THE SACRO-ILIAC JOINT.

BY

JOHN COWAN, M.B.,

MEDICAL OFFICER IN CHARGE, MASSAGE AND ELECTRICAL DEPARTMENT,
MANCHESTER ROYAL INFIRMARY.

SCIATICA is commonly defined as pain in the distribution of the sciatic nerve. Both neuritis and neuralgia of the nerve are included under the term. The most frequent condition giving rise to the pain appears to be a much disputed point. Observers appear to be divided into two schools according to their opinion as to whether neuritis or neuralgia is the more common condition. Gowers¹ regards all cases with persistent tenderness of the nerve as neuritis, and consequently he considers neuralgia as rare. Oppenheim² considers that in most cases the signs of neuritis are absent. Barre and Duprez³ consider that if pressure on the nerve causes acute pain the case is not one of neuralgia. As most cases have this pain on pressure, these two observers must consider neuritis as the common condition. Holmes,⁴ however, points out that the nerve trunks are tender in facial neuralgia when no disease of the nerve can be found.

I have recently reviewed my notes on forty successive cases of sciatica which have been referred to me for treatment, and I have been struck by two facts: The first is the great frequency with which sacro-iliac joint pain is found associated with the nerve pain; I have found the joint pain present in most cases of under six months' duration, but that it tends to disappear, although the nerve pain persists. The second point is that pressure on the sacro-iliac joint, in nearly all cases, causes acute pain down the course of the nerve, which, with pressure on the joint, is much more severe than the pain caused by local pressure on the painful spots down the course of the nerve.

From the above facts I have formed the opinion that some morbid condition in or about the sacro-iliac joint (probably an arthritis or a peri-arthritis) is usually the cause of the pain in sciatica. Further, that the pain is usually neuralgic.

The connexion between the joint and the nerve in cases of sciatica has been noticed by other observers. Barre and Duprez³ observed the connexion, and coined the term "sacro-iliac sciatica." They also noticed that in early cases there is frequently sacro-iliac joint pain which tends to disappear. Gowers¹ states: "The neuritis (sciatic) often arises by extension of adjacent rheumatic affections of the fibrous tissues, especially that form of 'lumbago' which involves the fibrous attachment of muscles to the back of the sacrum, less commonly in its ordinary site." Probably those cases of "lumbago" were painful sacro-iliac joints and the sciatica was neuralgic.

Gibson,⁵ in an analysis of 1,000 cases, found lumbago in 132, but he considers that number too low, as many patients overlook the slight pain owing to the more severe sciatic pain. It is probable that those cases of lumbago were those with painful sacro-iliac joints, as most patients refer to any pain in the lower part of the back as "lumbago."

Anatomy.

There is a close relation between the sacro-iliac joint and the sciatic nerve. The lumbo-sacral plexus is the source of origin of the nerve, and it also gives a nerve supply to the joint; a morbid condition of the joint, therefore, would cause referred pain down the nerve. The plexus lies immediately in front of the joint, being separated from it only by the pyri-

formis muscle. A peri-arthritis could, by extension, set up a neuritis of the nerve.

I do not consider that a local neuritis is common, otherwise one would expect most pain to be around the joint instead of down the nerve. On the other hand, in neuralgia the pain is frequently felt at some distance from its source of origin.

Clinical.

Bending and walking cause severe pain in patients suffering from sciatica. Both these actions cause strain on the sacro-iliac joint. Assuming that there is an arthritis of the joint, an exacerbation of the pain would be expected.

Lasegue's sign (flexion of the hip with knee extended) is used to test for sciatica. This movement not only stretches the nerve, but also puts a strain on the joint; consequently it can be used to test for sciatica, whether due to neuritis or a morbid condition of the sacro-iliac joint.

In cases of sciatica the patient usually obtains almost immediate relief by lying down, especially in the semi-prone position with hip and knee slightly flexed. This is the position in which all strain is removed from the joint. One can readily understand how this position would give relief so quickly if the joint is the cause of the trouble, but it is not so easy to see how it would be obtained if the trouble is neuritis.

Treatment.

Considering the sacro-iliac joint as the seat of disturbance in cases of sciatica, it has been my custom to apply treatment towards that part and not towards the course of the nerve. The results have been striking in most cases, and could not have been obtained if the joint had not been the cause of the pain.

In early cases, mainly when there is pain in the joint, I have found that radiant heat and massage to the joint is very effective. In older cases I have found that ionization with iodine ions and massage to the joint usually give relief. Anodal galvanism to the painful spots down the course of the nerve can be given conveniently with the ionization. In some cases it is necessary to break down adhesions in the joint; this can be done by Swedish remedial exercises and also by means of the movement which is adopted in nerve stretching.

Recently I have tried diathermy in all cases, and I have found that the results are better than with any other form of treatment, especially in old-standing cases.

Analysis of Forty Successive Cases of Sciatica.

Of the 40 cases 14 were of less than six months' duration; in 2 of these the pain was situated in the nerve, and in 12 in joint and nerve. There were 26 cases of more than six months' duration; in 15 of these the pain was in the nerve, and in 9 in joint and nerve. There were 2 cases of hip disease.

Duration and Situation of Pain.	Effect of Pressure on Sacro-iliac Joint.			
	Pain in Nerve and Joint.	Pain in Nerve only.	Pain in Joint only.	No Pain.
Group 1: Under six months—in nerve and joint.	11	0	1	0
Group 2: Under six months—in nerve only.	2	0	0	0
Group 3: Over six months—in nerve and joint.	6	0	3	0
Group 4: Over six months—in nerve only.	11	2	1	1
Totals	30	2	5	1

Three cases showed definite signs of neuritis—namely, muscle wasting, sensory changes, etc. Two of these cases belonged to Group 3, and only gave pain in the joint alone on pressure on joint. One case belonged to Group 4, and gave no pain with pressure on the joint. The 6 cases which did not give any response down the nerve with pressure on the joint did not respond to treatment at all. Of the remaining cases trace was lost of 3, there was no improvement in 2, a cure was effected in 12, and in addition 15 were in different stages of improvement.

Summary.

Out of 38 cases only 3 had neither signs nor symptoms in the sacro-iliac joint.

Thirty-two cases had a positive response down the nerve to pressure on the joint. Of these cases 21 were improved by treatment of the joint.