

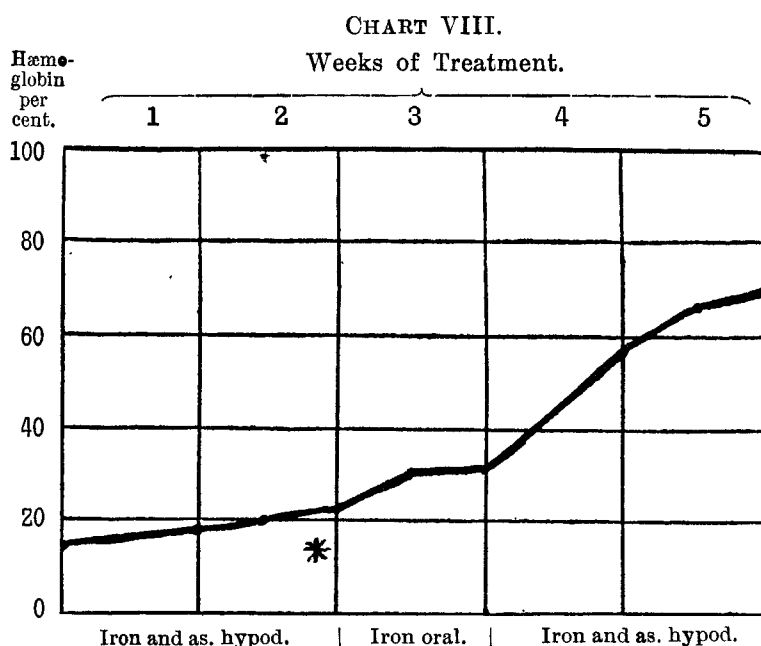
secondary type. The work of Ashby¹⁰ and others has shown that the organism normally absorbs iron from the food only in the upper part of the small

but hypodermic medication generally succeeds. 9. Arsenic by itself is useless. Iron is always essential to recovery from severe ankylostomiasis.

10. Persistent eosinophilia after the complete expulsion of worms may be attributed to the presence of living larvæ in the tissues. 11. Intense and persistent anæmia in ankylostomiasis generally denotes exhaustion and atrophy of the bone marrow.

In conclusion, I must acknowledge my indebtedness to my friend, Professor Ferguson, for his advice and his note on the marrow condition here reproduced. My best thanks are due to my assistant physician, Dr. Garas, for his coöperation, and to a succession of house physicians who have undertaken the laborious work of examination and culture of the stools.

Bibliography.—1. Boycott: Milroy Lectures, THE LANCET, March 18th (p. 717) and 25th (p. 783), and April 1st (p. 859), 1911. 2. Dock and Bass: Hookworm Disease. 3. Schüffner and Vervoort: Münchener Medicinische Wochenschrift, Jan. 21st, 1913. 4. Stockman: Brit. Med. Jour., April 29th, 1893. 5. Lyn Dimond: THE LANCET, June 7th, 1913 (p. 1585). 6. Day: THE LANCET, Nov. 11th, 1911 (p. 1328). 7. Rake: Journal of Pathology, 1896. 8. Hopkins: Guy's Hospital Reports, 1894. 9. Nicoll: Journal of Hygiene, January, 1914. 10. Ashby: THE LANCET, July 20th, 1912 (p. 150). Cairo.



Case No. 279.—Boy, aged 14. Asterisk shows date of complete expulsion of worms. Shows arsenic essential to recovery, but its action much accelerated by oral administration of iron.

intestine. This fact may account for the striking development of anæmia when the functions of this part of the intestine are disturbed by the septic inflammation consequent on ankylostoma infection or malignant disease. The bone-marrow is thus deprived of the free supply of iron necessary to replace the hæmoglobin lost by hæmorrhage, and the colour index is depressed. For it is a time-honoured maxim in the treatment of chlorosis and other forms of anæmia that catarrh of the digestive tract must be corrected before iron can produce its therapeutic effect. Hence removal of the inflammation caused by the presence of ankylostoma worms is a necessary preliminary to successful hæmatinic treatment. It is in this way that I believe bacterial action aggravates the anæmia of ankylostomiasis. In such severe cases as seen in Chart III. the ready response of the marrow to arsenic and iron shows that its function is not seriously impaired by circulating toxin.

Summary.

1. Patients with slight anæmia may benefit from hæmatinics without the expulsion of worms. But no case of decided anæmia can be really improved unless the worms be expelled. 2. Recent cases of moderate anæmia from ankylostomiasis are cured by expulsion of the worms. Recovery in most chronic cases is very slow unless hæmatinics be given. 3. Under treatment with vermicides and iron the rise in hæmoglobin is a reliable index to the expulsion of the worms provided the marrow be in a condition to respond. 4. The administration of simple forms of iron by mouth is more satisfactory than the use of organic compounds or hypodermic medication. 5. Manganese cannot be substituted for iron. 6. After the expulsion of worms in a moderately severe case the recovery from anæmia is better and quicker when arsenic is given as well as iron. 7. In severe cases of ankylostomiasis the administration of arsenic is often essential to recovery. 8. In such cases arsenic given by the mouth may be ineffectual,

A CASE OF CHEILOLOGY.

By W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,
SURGEON, WITH CARE OF OUT-PATIENTS, TO THE MIDDLESEX
HOSPITAL; LATE HUNTERIAN PROFESSOR IN THE ROYAL
COLLEGE OF SURGEONS OF ENGLAND.

LAST year, in conjunction with Dr. C. Preston Ball, of Dublin, I operated upon two cases of crippling traumatic arthritis of the hip-joint by an operation which consisted in opening the capsule of the hip-joint and chiselling away an abnormal lip on the head of the femur in the upper half of its circumference, thus restoring the movements of abduction and rotation to the joint, in which previously all the movements except limited flexion had been lost.¹ The results in these two cases were completely satisfactory. The case I am now about to record is a more recent one, in which a similar beneficial result from the operation has been tested by the lapse of ten months since the date of operation. The improvement secured is not only fully maintained, but continues to be progressive. The condition of the earlier cases remains satisfactory; the subject of my first operation wrote recently and said that he was frequently playing 18 holes a day at golf.

The patient, a man aged 52, was sent to me in July, 1913, by Dr. S. G. Davidson, of Hawick. He had also seen Dr. W. M. Crawford Watson, of Harrogate, who concurred in advising him to consult me. In 1898 the patient's horse fell with him. He was not dismounted, but his left hip was crushed as the horse rolled over on to its left side. He also sustained a broken collar bone and was treated in bed until the clavicle united. At the time he was not aware that he had damaged his left hip, but gradually pain developed in the joint and became more severe. For some time he was treated for sciatica as the pain appeared to have the characters of this affection. During the next seven or eight years the condition of his hip

¹ Cheilotomy: a Function-restoring Operation in Crippling Traumatic Arthritis of the Hip-joint, by W. Sampson Handley, F.R.C.S. Eng., and C. Preston Ball, M.D. Dub., Brit. Med. Jour., May 3rd, 1913.

became an increasingly serious incubus. He had undergone a yearly cure at Harrogate and always with a certain amount of benefit, and various methods of treatment had been used at different times under Dr. Crawford Watson's direction, including cataphoresis and vaccine treatment. He was unable to ride; indeed, he had not been on a horse for three years. This was a very serious disability, since it prevented him from controlling the management of his large farm. He could walk half a mile with pain and difficulty. The pain lasted for some time after the exercise was over, and was so severe that it made him perspire freely. He could with difficulty put on his left boot. At night he was unable to lie on his left side owing to the pain which pressure produced in the hip. If in the night he rolled over during his sleep this pain awoke him. Apart from pressure, there was no spontaneous pain in the joint at night. His general health was good. He had not suffered from rheumatism in the other joints, except slightly in the big toes, and he had had occasional attacks of lumbago.

Stereo-skiagrams of the joint were taken by Dr. W. Hope Fowler, of Edinburgh. They showed marked lipping of the articular surface of the femur, together with a certain amount of lipping of the acetabulum. The normal concavity of the upper edge of the neck of the femur was replaced by a convexity. There was some blurring of the cartilage interval, but it was still present, so that disorganisation of the joint had not proceeded far. Dr. Davidson considered, and I agreed with him, that the skiagrams indicated a state of affairs which would be greatly improved by cheilotomy. This impression was confirmed by an examination of the patient. Flexion of the hip was possible to a right angle, while abduction and rotation were exceedingly limited, though not absolutely absent. There was slight wasting of the thigh to the extent of about one inch in circumference. An examination of the patient showed him to be in sound general health. He was, however, rather stout, and this added to the difficulty of the operation.

The patient came to London in August, 1913, for the operation, and on the 27th I operated. The anæsthetic was given by Mr. Herbert Charles, and the operation was a prolonged one owing to the stoutness of the patient and the depth of the wound. The hip was approached by a Kocher's posterior incision, and the capsule being opened the buttresses at the upper posterior and anterior aspects of the head of the femur were removed piece by piece. The capsule was sewn up with stout silk. The patient made a good convalescence, although the wound continued to ooze serum for about a week. Passive movements were begun after the first few days.

On Sept. 20th the patient left the nursing home, walking with the aid of a stick. His limping was much less than before the operation, and he could comfortably stride a capsized chair as wide as a horse's back, and could lie all night on the affected hip without being waked by pain—a fact which struck him particularly. There was free rotation of the joint. Abduction was fair but limited by some remaining muscular spasm. A week after his return home Dr. Davidson wrote to me that the patient had stood the journey well and that he was steadily improving. His letter goes on: "He has quite a big range of movement now and can abduct

almost to the normal extent. He walks quite well and any limp that appears is more due to habit than anything else. His pain has disappeared entirely, and his spirits have risen in consequence. To-day for the first time in three years he got on horseback and rode round his farmyard without difficulty. His nurse and I are giving him daily movement and will continue to do so for some time yet. On the whole, you are to be congratulated on making a big success of this case."

In November the patient went to Harrogate for some massage and exercise and to take the water to keep down his weight, which since the operation had been increasing rather inconveniently. Dr. Crawford Watson wrote to me at this time: "I must congratulate you upon the result of the operation. He has much more movement and I should think he would be able to ride. He has been on a horse cantering and walking, but has not tried trotting yet."

On several occasions since his operation the patient has written to me. On Dec. 27th last year he says: "I can now walk fully a mile with the help of a stick, but when I try without I can proceed very slowly and only for a short distance, but I think I am gradually going in the right direction, if slowly. My health is good and I have put on 2 st. 2 lb. since I left the nursing home, which is worse for the leg to carry." I wrote to inquire about his riding, and he replied that by using a riding block which reached up to within a foot of the stirrup iron he could get on and off the horse without assistance and without difficulty, that he had no trouble in riding at a walking pace, and that he intended to try the trot in a short time. He still felt matters improving.

The patient reported himself to me on March 10th of this year in excellent general health. With increasing activity his weight has come down to its normal level. He is now living an ordinary life, and can stand about all day without being conscious of any pain or weakness in his hip. By my advice he has not attempted to walk long distances, but he can walk a mile at a fair pace without any discomfort either at the time or subsequently. A slight limp is still perceptible in his gait, which, however, is now active and strong. Since the operation he has had no pain whatever in the hip, a point on which he joyfully insisted. He is now able not only to mount and dismount a horse, but to trot and canter. In trotting, however, he finds some difficulty in rising in the stirrups, and has to help himself up with a hand on the front of the saddle. Cantering he finds quite easy.

On examination I found slight muscular wasting still persistent, the right thigh measuring an inch less round than the left one, and the right calf half an inch less. Abduction was perfectly free to the full extent; it appeared, in fact, actually rather more free on the side operated upon than on the other side. Rotation also was free. No muscular spasm existed. Flexion was free up to a right angle, as before the operation. This is now the only movement of the joint in which he is conscious of any abnormal restriction. His only present complaint is of slight pain in the adductors after any unusual exertion. This probably depends on slight shortening of these muscles during the period when abduction was in abeyance. He expressed himself as fully satisfied with the result of the operation, which has restored to him a life of full activity.

New Cavendish-street, W.