

and of fair volume and force. An aperient was given and the bowels were freely opened three times. The stools were fluid and of normal colour, but contained a trace of blood intimately mixed and a little mucus. Examination of the urine showed nothing abnormal. The patient continued to have attacks of the most violent abdominal pain, rolling about the bed in agony, and his general appearance was one of extreme illness. A provisional diagnosis of chronic intussusception was made.

Operation.—With the consent of Mr. Andrew Boutflower, who kindly allowed me to treat the case, I opened the abdomen through the right rectus muscle on March 23rd. There was a little clear fluid in the peritoneal cavity, and the parietal peritoneum was slightly hyperæmic. Along the whole length of the small intestine there were numerous patches of hyperæmia and œdema. The lowest was a few inches above the ileo-cæcal valve; it extended all round the intestine and was about two inches in length. The intestinal wall was slightly thickened and markedly œdematous and hyperæmic, but there was no extravasation of blood. There were similar patches at intervals of 9 to 12 inches along the whole length of the small intestine, giving it a curiously striped appearance. They exactly resembled one of the cases described by Dr. G. A. Sutherland in THE LANCET of June 26th, except that they did not all extend round the whole circumference of the intestine. About two feet from the duodenum there was a circular scar causing a very slight constriction. It was obviously old and resembled the scar of an old intussusception. There was no deposit of lymph or any other sign of inflammation, old or recent. The vermiform appendix and large intestine were normal. The abdomen was closed in the usual way. On the following day (March 24th) there was only one slight attack of pain and on the next day there was no pain. On the 26th there appeared a few typical purpuric spots on the left wrist. They were grouped together on an area of about one and a half inches by one inch on the ulnar side, and there were no spots anywhere else on the body. Later in the day, however, two small spots appeared on the back of the left hand. On the 27th there were more spots on the back of the left forearm and hand; there was again slight abdominal pain, and blood was present in the stools to the same extent as before. On the 29th spots appeared on both elbows and ankles; the temperature remained subnormal throughout except during the formation of a stitch abscess. On the 30th there was a thick cloud of albumin in the urine; no blood or casts. The total quantity was 36 ounces; general condition better. On April 11th there was profuse hæmaturia, some free fluid in the peritoneum, while the feet and legs were œdematous. The patient seemed much worse. The œdema persisted until May 7th, and the peritoneal fluid until June 20th. At the present time (July 5th) the patient is convalescent; there is no abdominal pain and the fæces are free from blood. There is still, however, a trace of blood in the urine.

The case is of particular interest in view of the theory of the causation of intussusception put forward by Dr. Sutherland in the case already mentioned. Dr. Sutherland quoted a number of cases in which this condition of intestinal effusion was found during a laparotomy for supposed intussusception, and showed that it had been not unnaturally regarded as the result of an intussusception spontaneously reduced. He brought evidence to show, however, that (a) all the symptoms of intussusception may be caused by intestinal effusions, and (b) that intestinal effusion itself is a cause of intussusception. My case presents a certain amount of evidence in favour of both these views. Before operation it was regarded as a chronic intussusception, and had only one patch of hyperæmia been found a diagnosis of spontaneous reduction would probably have been made. He would be a bold man, however, who would assume the presence of 12 to 15 intussusceptions, all of which had undergone spontaneous reduction, to account for the condition found. Consequently it must be admitted that intussusception may be closely simulated by multiple patches of intestinal effusion, and, if so, why not by a single patch?

The other point of interest centres in the old scar found; its appearance strongly suggested an old intussusception, and the occurrence of intussusception and of intestinal effusions in the same patient is, to say the least of it, suggestive.

NOTE ON THE TREATMENT BY RADIUM OF LYMPHATIC OBSTRUCTION (CERVICAL, SUBMAXILLARY, AND AXILLARY) IN A PATIENT SUFFERING FROM FILARIA NOCTURNA.

By A. A. WARDEN, M.D. GLASG. & PARIS,

VISITING PHYSICIAN TO THE HERTFORD BRITISH HOSPITAL, PARIS.

With Comments by Dr. H. DOMINICI and Sir R. HAVELOCK CHARLES, M.D., Physician in Ordinary to H.R.H. the Prince of Wales.

THE remarkable and rapid success that attended the use of radium and the fact that this is perhaps the first occasion that other than surgical measures have been effective in filariasis encourage us to place on record some details of the case. It may be premised that operative removal of the axillary mass had been attempted and abandoned on account of a prolonged syncope under chloroform, and Sir Havelock Charles, consulted by the patient in London, negatived further operative interference.

Authorities are agreed that "no drug destroys the embryos in the blood,"¹ or indeed "has any effect on the worm once it is introduced into the body. For the effects of lymphatic obstruction, elephantiasis, &c., something can be done by careful bandaging and massage, but as a rule surgical operations are necessary if the removal of the deformity is desired."² Sir Havelock Charles felt justified, therefore, in recommending a trial of radium and the patient was sent to me for that purpose. During treatment, which lasted six weeks and which in no way interfered with the patient's comfort during the day, his general health improved and he frequently remarked on the pleasantness of Paris as a health resort in spring!

Past history.—The patient, aged 45 years, in a stay of 22 years in India had spent nine in the temperate climate of the hills in the hot weather, the rest in Bengal proper. In 1885 and 1886 he had a three days' attack of high fever in the Nadia district. In 1895 he had a mild attack of enteric fever, and in July, 1906, he caught 24-hours' fever "by sleeping in the jungle." In June–July, 1907, he had a six weeks' attack of "hill-diarrhoea," contracted at a hill station, Shillong, where such illness was common. The following year at Darjeeling he had a similar illness, lasting about the same length of time.

Present illness.—Early in August, 1908, that is to say, when convalescent from his second attack of hill-diarrhoea, he first noticed a swelling above the left clavicle. It caused no pain and was noticed accidentally by the patient. In October a cough developed which the patient could not shake off, and during the next few months his general health failed considerably, although he continued his arduous administrative duties. Early in January, 1909, a swelling was noticed under the left arm, and the civil surgeon who was consulted at the time recommended his going to Calcutta for operation. There Lieutenant-Colonel H. W. Pilgrim, I.M.S., of the Calcutta General Hospital, found filaria in the specimens of blood taken at night, and in consultation with Major R. Bird, I.M.S., professor of surgery at the Medical College, Calcutta, it was decided to remove the axillary mass. A prolonged syncope under chloroform prevented the completion of the operation, but part of the mass was removed and examined by Major L. Rogers, I.M.S., bacteriologist to the Government. On the patient's return to England early in February he consulted Sir Havelock Charles, who also found filaria nocturna embryos in the blood, and expressed the opinion that the enlargement of the axillary and cervical glands was due to their presence and that further surgical interference was inadvisable. He recommended a trial of radium and the patient arrived in Paris on April 7th and had his first treatment on the 10th.

Present condition.—The patient is some four pounds under his normal weight and still suffers from general malaise, especially in the evening, when the temperature, taken carefully four times daily, shows a regular rise of 1½° F. Physical examination detects no abnormality in the heart, liver,

¹ Osler: Principles and Practice of Medicine, fourth edition, p. 362.

² C. W. Daniels, Medical Superintendent of the London School of Tropical Medicine, in Hutchison and Collier's Index of Treatment.

abdomen, lungs, or urine. Under the skin in various parts of the body—e.g., the forearm, abdomen, and back—are small elastic tumours apparently fibro-lipomatous in nature. The patient had noticed some of them as long as 14 years ago.

The filarial lesions.—These were in four groups: (1) Left axillary; (2) left cervical; (3) submental; and (4) right submaxillary. 1. In the left axilla was a scar 2 inches in length, at the upper part of which a mass could be felt, deep in the axilla, measuring 4 inches by 2 inches and stretching transversely across the line of cicatrix. 2. Above the left clavicle was an irregular mass of enlarged glands, 4 or 5 inches in diameter, reaching posteriorly to the border of the trapezius and occupying both the anterior and posterior triangles of the neck. 3. Under the chin, about 1½ inches to each side of the middle line, could be felt a firm, elongated, fleshy mass, less distinctly glandular in outline and consistence. 4. Under the right lower maxilla one gland, of the size of a cherry, could be felt. None of these tumours were painful and the skin over them was unaltered.

Radium treatment.—The details of the radium treatment are given in Dr. Dominici's note. It entailed no discomfort or pain to the patient, and under its influence the several glandular masses rapidly diminished in size. By the end of May a small tumour measuring 1 inch by ½ inch could be detected in the axilla at the upper extremity of the scar, and of the cervical adenitis one small gland could alone be felt.

As it had been found that the tumours continued to diminish in size when treatment was suspended for a period of ten days, and as the patient was anxious to return to England, it was agreed to postpone further action till later, if necessary. The patient's general health had improved, his temperature had been normal for over a month, and his appearance was that of perfect health.

NOTE BY DR. DOMINICI.

Le malade fut soigné d'après la méthode radiumthérapique dont j'ai, le premier, exposé les principes et démontré les effets dans une série de communications qui remontent au Congrès de Médecine de Paris, 1907.³ Cette méthode que j'ai appelée "Méthode du Rayonnement ultrapénétrant," consiste à filtrer le rayonnement du radium au moyen d'écrans de métaux denses (plomb, or ou argent) de 4/10 de mm. à plusieurs mm. d'épaisseur. Utilisés à doses thérapeutiques et avec certaines précautions les rayons qui ont franchi ces écrans métalliques restent capables de déterminer la régression soit de certaines tumeurs, soit de certains processus inflammatoires dont les éléments sont vraisemblablement beaucoup plus sensibles aux rayons filtrés que ceux des tissus normaux.

Les adénopathies furent soumises au rayonnement des appareils suivants: 1° Un appareil à sel collé, rond, supportant 5 cg. de sulfate de radium pur; 2° Un appareil quadrilatère de 9 cm. q. contenant 2 cg. 1/2 de sulfate de radium pur; 3° Un appareil constitué par deux toiles quadrilatères de 4 centimètres carrés, supportant chacune 1 cg. de sulfate de radium pur.

Ces appareils furent montés suivant ma méthode, c'est-à-dire en superposant à chacun d'eux: 1° Un écran de plomb dont l'épaisseur fut, en la circonstance, de 2 mm. 2° Un écran de papier de 3 mm. d'épaisseur. Le tout était engainé de caoutchouc. Les appareils ainsi montés fournissaient, à travers leurs écrans, un rayonnement essentiellement constitué par des γ et des β ultrapénétrants. L'intensité de ce rayonnement était: Pour l'appareil rond, contenant 5 cg. de sulfate de radium pur, 10,000. Pour l'appareil carré contenant 2 cg. 1/2 de sulfate de radium pur, 6000. Pour l'appareil constitué par les deux toiles à 1 cg. de sulfate de radium pur, 7000. Ces appareils furent situés à peu près indistinctement sur les différentes régions malades, exception faite en ce qui concerne celui formé par les deux toiles et qui fut destiné à la partie la plus élevée du creux axillaire. Grâce à la souplesse relative des toiles et du plomb, on

donna à l'appareil une forme concave-convexe de manière à l'adapter, par sa convexité, à la concavité de l'aisselle.

Les applications furent réparties de la façon suivante: Adénopathies sous-maxillaires gauches, 4 applications à gauche, 4 applications à droite; Adénopathies sous-maxillaires droites, 2 applications; Adénopathies de la région cervicale gauche, 6 applications; Adénopathies sus-claviculaires, 5 applications; Creux axillaire, 13 applications, dont 6 à la partie tout à fait supérieure. La durée de chaque application fut de 12 à 14 heures. Afin d'incommoder le moins possible le malade, ces applications eurent lieu généralement pendant la nuit, les appareils restant maintenus au moyen de diachylum. Afin de diminuer le nombre total des séances, on pratiquait les applications d'une façon simultanée dans les différentes zones traitées. Les adénopathies sous-maxillaires, sous-mentonnières, cervicales, et sus-claviculaires disparurent complètement sous l'influence du rayonnement.

Le bloc massif constitué par les adénopathies de la région de l'aisselle se résorba peu à peu, en laissant comme reliquat deux ganglions indurés qui persistent encore à la partie la plus élevée du creux de l'aisselle. Si la tuméfaction de ces ganglions persistait, je conseillerais, pour la réduire, d'introduire pendant 24 heures dans l'épaisseur du tissu conjonctif du creux de l'aisselle un des appareils qui ont été construits suivant mes indications et qui sont constitués par une ampoule de verre cylindrique contenant 5 centigrammes de bromure de radium pur, placée dans un étui d'argent ou d'or à paroi de 5/10 de mm. d'épaisseur. Quoi qu'il en soit, les résultats obtenus sont très intéressants pour plusieurs raisons: les adénopathies échappaient à toute intervention chirurgicale, comme il ressort de l'observation du Dr. Warden. Ces manifestations inflammatoires étaient à la fois massives, profondes, étendues et disséminées. Elles ressortaient d'un agent très spécial, puisque celui-ci était un nématode du type des filaires. Or, si j'ai déterminé l'atténuation ou la disparition, au moyen de la radiumthérapie, d'arthrites blennorrhagiques graves, d'inflammations paramétriales, dont s'entourent les cancers de l'utérus, de syphilomes chroniques, étendus et rebelles au traitement spécifique, des éléphantiasis d'origine streptococcique, je n'avais jamais expérimenté l'action du rayonnement du radium contre les réactions inflammatoires provoquées par un parasite du type des vers.

En l'espèce, le rayonnement a paru agir non seulement contre les réactions inflammatoires provoquées dans les tissus par la présence des parasites, mais contre ces parasites eux-mêmes, à en juger par la cessation de la fièvre. Si la disparition de l'état fébrile est en relation avec la destruction des nématodes, il y a lieu d'espérer que le champ d'action du radium s'étendra à d'autres parasites de la classe des vers, et qu'il sera possible un jour de traiter par la radium-thérapie combinée à la chirurgie des affections telles que le kyste hydatique, par exemple.

NOTE BY SIR HAVELOCK CHARLES.

The progress of this case (June 24th, 1909) has been highly satisfactory. When first seen by me nothing could be done surgically, and medicine gave no hope. The patient's condition is well described by Dr. Warden, to whom I sent him. I was able in Paris to note the favourable progress made whilst under treatment. I should desire to draw the attention of those who have to do with such affections to the beneficent influence of radium in this case. It promises much, and I think there is a great field before it in filarial trouble. Were I again returning to the tropics I should certainly equip myself with a working quantity of this element for use there. Since my lot is differently cast I suggest to others the trial in favourable cases of the radium treatment.

A SURREY CONVALESCENT HOME.—Sir Trevor Lawrence, Bart., presided over the gatherings in connexion with the Surrey Convalescent Home for Men at Seaford, Sussex, held on Founder's Day, July 12th. The Home was built and endowed by the late Mr. W. Alexander, and was opened in 1891 by the late Duke of Cambridge. The Duke of Teck is the President. Since its foundation no fewer than 10,133 patients have passed through the Home, 613 during the year just ended. The financial position of the Home has been well maintained, but extraordinary expenditure during the past year has resulted in a deficit of £87.

³ H. Dominici: De l'utilisation des rayons du radium en pathologie. Congrès de Médecine interne, Paris, Octobre, 1907. H. Dominici: Du radium et de ses applications thérapeutiques, Bulletin Général de Thérapeutique, No. 8 du 29 février, 1908. Gaucher et Dominici: Traitement des épithéliomas par les rayons du radium, Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris, séance du 3 avril, 1908. Dominici and Barcat: L'action thérapeutique du radium sur les néoplasmes, Compte rendu des travaux présentés au Congrès de Clermont Ferrand en 1908, Rapports I., p. 12. Gaucher: Traitement de l'épithélioma de la peau et des muqueuses dermo-papillaires par les applications du radium.