The report of the Clinical Research Association was to the effect that the tissue consisted of uterine muscle substance infiltrated with sarcoma. The cells were spindle-shaped and many of them were very large. The characters of the growth were not like those of deciduoma malignum. The uterus was consequently extirpated by vaginal hysterectomy and the patient made a good recovery. I examined the patient a few months ago—that is, just two years after the operation—and I found her to be free from disease and in good general health. I have recently heard that she continues well.

The uterus when removed showed no signs of growth externally. On opening its cavity by a vertical incision through the anterior wall the disease was seen to consist of a small, reddish, lobulated sessile growth situated on the upper and posterior part of the uterine wall and projecting towards its cavity. The other portions of the uterine wall presented no naked-eye evidence of disease. Further microscopical examination of sections direct from the growth after removal confirmed the previous diagnosis.

Leeds.

A CASE OF RECOVERY AFTER OPERATION FOR DIFFUSE PERITONITIS FROM PERFORATION OF THE APPENDIX.

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THE case which I have described below may prove of interest when read in conjunction with the case reported by Mr. Charles A. Morton.¹ The infection was obviously widespread, as in that case, but I acted in the operation on the belief that the upper part of the general cavity was free and that it was my business to leave it so. On the other hand, the pelvic part of the cavity was full of dirty fluid, which was most thoroughly sponged out and the cavity drained. The consecutive abscess in the left scrotum was doubtless due to a patent funicular process on that side.

On March 1st, 1901, I was asked by Dr. A. Macindoe of Sidmouth to see a patient a boy, aged 14 years. The past history of the patient was unimportant, there being a record of an occasional stomach-ache but nothing more. The boy was perfectly well on Feb. 25th. On the next morning he had some pain which he referred to the region of the appendix. He felt sick and had lost his appetite, but he sat up all day. He was first seen by Dr. Macindoe's locum-tenent on the morning of the 27th. He had had some shivering during the night and had begun to be sick, with severe abdominal pain which had kept him awake all the night. The vomit was at first bilious, becoming darker afterwards. The bowels had acted. The abdomen was distended, more especially on the right side. The temperature was 104° F. Dr. Macindoe first saw him on the 28th. He was still very sick and the abdomen was much distended.

I visited him late in the afternoon of March 1st when the sickness had stopped, but the boy was obviously very ill. His temperature was 102°, his pulse was 132, and his respirations were 36. He had a hard, dry, red tongue with moist edges, and the respiration was chiefly thoracic. The lad lay on his side with his legs drawn up. The abdomen was generally swollen, but it was very markedly so in the neighbourhood of McBurney's point, there being already some redness and oedema in that situation. It was impossible to operate that night, but as early as possible on the next day (March 2nd) I opened the abdomen by an oblique incision reaching as far down as the deep epigastric vessels. On dividing the peritoneum at the upper part of the wound I at once came on an abscess extending upwards outside the ascending colon towards the liver. The pus, which had a strong faecal odour, was carefully sponged out of this. The edge of the omentum, which lay on the inner side of the wound between the large bowel and the parietes, was not disturbed at the upper part, as there was a little glueing together of the peritoneal surfaces, but in the direction of the pelvis there was not

the faintest attempt at any barrier and the fingers passed right down into the pelvis to the roof of the bladder, a large quantity of dirty brown-tinted blood welling up as the coils of intestine were separated. This fluid was sponged away as it welled up, and when this ceased the sponges were continually passed down into the pelvis until they returned dry. Two large drainage-tubes were then inserted, one going to the sub-hepatic pouch, the other down into the pelvis. The appendix itself was not seen.

The after-treatment was simple. Half a grain of calomel every hour for eight hours and a rectal tube did wonders in relieving the abdominal distension. A concretion of the size of a butter bean came away from the upper part of the wound on March 27th, the wound healing entirely a few days later. The only drawback during convalescence was that on the third day after the operation the scrotum became inflamed and an abscess slowly developed in the left tunica vaginalis. This was opened on March 13th and about three ounces of very foul pus escaped. The boy is, I hear, now about and well.

Exeter.

ON THE USES OF DIPHTHERIA ANTITOXIN.

BY T. B. BROADWAY, M.B., B.CH. GLASG.

AT a time when the antitoxin treatment of diphtheria is still in its infancy, when there are many who use it doubting its value—hence tardily and inefficaciously—and still a few who have no faith in its efficacy whatever, the putting in black and white of the successful cases that have occurred in the hands of those who have used the serum may help to its getting a fair trial and may be the means of not only saving the lives of patients, but of cutting short the attack and hence saving the patient from many of the sequelæ that follow. From October, 1898, to October, 1900 I have treated about 30 cases of this disease, the oldest patient being a child aged 13 years, and the youngest a child aged two years, and with the exception of half-a-dozen were treated with the antitoxin, the result being that of those treated with it only one of the number died, whereas of the six patients treated along the ordinary lines two died and two developed post-diphtheritic paralysis. The two latter unfortunately neither at the time nor at any time of the treatment showed a membrane, and I treated them for a simple angina of the throat, and it was not till the paralytic symptoms developed that it struck me that they had had diphtheria. These two cases were also the starting-point of an epidemic. In one case paralysis affected the limbs, whereas in the other case the thoracic muscles and the muscles of deglutition seemed to be especially affected; there was some loss of power in the arms, but the lower limbs seemed to escape altogether.

In the case treated with antitoxin that resulted in death the patient was seen by me first on the third day of illness. He was 11 years old and at the time when I saw him he had difficulty in breathing and in swallowing. On examining the throat I found a membrane, somewhat greyish in colour, covering the naso-pharynx, tonsils, and uvula with an offensive discharge from the nares and enlargement of the glands of the neck. After carefully washing the lumbar region with turpentine, rectified spirit of wine, and perchloride of mercury (1 in 1000) I injected 2000 units of the serum obtained from Burroughs and Wellcome and at the same time ordered inhalations of carbolic acid. On calling again I found the boy much easier in his breathing and his father told me that he had been able to swallow his milk more easily and, in fact, was constantly calling for some. On examining the throat I found the membrane greatly reduced. I then again injected 1500 units of the serum and after leaving injunctions that the boy was on no account to be allowed to sit up left with the full conviction that he would do well. Soon after my leaving he coughed up the membrane and slept soundly, but unfortunately on his father leaving the room he sat up and tried to help himself to some milk and fell back dead, death being due to cardiac failure. This was a lesson to me in giving a prognosis, and in all my other cases I took care to place the patient on a cardiac stimulant, the one generally used being a mixture containing two drachms of solution of perchloride of iron, one drachm

¹ THE LANCET, April 20th, 1901, p. 1134.

of solution of strychnia hydrochlorate, with glycerine and water to six ounces; one or two drachms every four hours. To this and also to the care which I took in explaining to the parents or nurse of the child the reasons for keeping the patient as still as possible I think I owe my success in serum treatment.

In aborting serious symptoms serum again holds the field. In the case mentioned it cut short the dyspnoea and allowed the patient to swallow with ease; in other cases, and especially in one, I noticed the great relief produced soon after the injection of the serum. In this case the child was two years old and had been ill for two days previously to my seeing her. When I arrived I found the child flushed in the face, tossing about with a short, constant, hacking cough; as she was only two years old I could elicit nothing from her, so I had to trust to my observations and the mother's statements. I found that the temperature registered 99.6° F. I tried to examine the throat, but could not manage it owing to the restlessness of the child, but found the glands at the angle of the jaws enlarged. The mother stated that the child could not "clunk" (swallow) her food with ease and also that she had two or three attacks of croup for which she gave her ipecacuanha wine, but without much benefit; she further stated that the child had had practically no sleep for the past two days. After carefully cleansing the part I injected in the gluteal region 1500 units of serum and waited to see its effects. In half an hour I found that the temperature had risen about a degree—that is, it registered 100.6°. I then left and called again in the evening, when the mother told me that the child was sleeping and that she had practically slept from the time I left in the morning; in fact, it made her a little nervous. I now found the child's temperature to be 99°, but as there still seemed to be some difficulty in swallowing I gave her another injection of 1500 units of serum and left. On the next morning I found that the patient had passed a fair night and had taken a good quantity of milk; her temperature, however, was 99.8°, so I gave her another injection of 1500 units of serum. I did not see the patient again till next morning, when her temperature was 98°, and as she also seemed to be fairly well otherwise I did not give her any more injections but put her on one drachm of compound solution of phosphate of iron every four hours. The patient did very well.

Space prevents me from giving a description of the other cases, but what I wish to impress on all is, first, that the serum treatment of diphtheria has placed the prognosis of this disease in a more favourable light and if used early practically saves life; secondly, it preserves the patient from the serious sequelæ that often follow recovery from it; thirdly, if proper antiseptic precautions are taken no abscesses form at the seat of injection; and lastly, the almost instantaneous relief which it gives to very distressing symptoms would alone justify its use, especially in a country practice where often medical help for a tracheotomy is hard to procure. Probably the injection of a saline solution at the same time as the antitoxin, as advocated in THE LANCET by Dr. E. E. Laslett,¹ would add to its efficacy.

In very young children I found the gluteal or interscapular region the best for injection; in older ones I often injected into the loose tissue of the breast, but when the child showed dread of the operation I injected into the gluteal region instead. The chief difficulty which I found in using the serum was the prejudice of the parents, and as, unfortunately, they usually belong to the illiterate and unthinking class it is hard to reason them into believing in the serum, though when they do allow its use and see the good which it does they are the very class to carry its praises far and wide.

In closing I would add that to procure good results from the serum it should be used early, freely, and in all doubtful cases of sore-throat, for even if it is not diphtheria the serum will give rise to no bad results. To wait till the diagnosis is confirmed by bacteriological examination is throwing away precious time. A swab should be sent for examination, but at the same time the serum should be used. I may here add that I found it beneficial to give some simple mouth-wash or gargle, such as boric acid, chlorate of potash, and glycerine, as it helped to keep the mouth, &c., fairly sweet. An inhalation of formic aldehyde, carbolic acid, or turpentine helped to check the spasmodic cough which is often so troublesome.

St. Dennis, Cornwall.

THE RESPIRATORY MOVEMENTS OF THE PRÆCORDIAL AREA IN HEALTH AND IN DISEASE.

BY J. AIKMAN, M.D. GLASG.

FOR about two years I have given some attention to certain modifications of the chest movements during the respiratory act in the region known as the præcordial area. These modifications seem to indicate acute or chronic disease and also to forecast the advent of it. In the hope that my observations may offer a useful guide in practical work I venture to call some attention to their detail.

Normal.—Anyone who will carefully compare the third intercostal space on the left side with that on the right may convince himself that the left intercostal space rises and falls at its sternal end during the respiratory act to an appreciably less degree than the right. He will become cognisant that the area of limited movement is very small. It does not extend to the left beyond the junction of the cartilage to the rib. It does not usually extend upwards to the second intercostal space except in young children, but it does extend to the fourth intercostal space, and below that it is masked by the apex beat. I think that in children the cartilages of the ribs show lessened movement over the præcordial area, but the intercostal spaces show it more markedly. The comparatively still area is only discoverable in the normal chest when care has been taken to place the patient in a perfectly normal position. He should lie flat on his back in bed, his head should be straight, his shoulders and hips square, his legs straight, and his arms laid along his sides. In a twisted position the condition is not obvious. Lateral curvature of the spine masks it. So does rachitic deformity of the chest. This remark applies to all information which can be gathered from the respiratory movements.

In pericarditis.—While watching the respiratory movements during the course of acute rheumatism I have found that a marked diminution of the movement in the third left intercostal space precedes the stethoscopic signs of pericarditis by a period varying from one day to four days. In a much shorter period the limitation of movement extends to the second, and even to the first, intercostal space, and increases, less markedly, to the left. By this time both the costal cartilages and the intercostal spaces are involved, but there may be neither extension of the dull percussion note nor friction sound. I have never been disappointed in my expectation to find both at a later date. So far I have never waited more than four days but more often I have found conclusive evidence after one or two days. Continued observation of such cases has taught me that this limitation of chest movement disappears with recovery and reappears as a prognostic sign of relapse. Should these observations be verified by other hands they ought to have some bearing upon treatment.

In endocarditis.—The variations of chest movement which prognosticate and evidence endocarditis are less in degree. They are least marked when the right side of the heart is involved but I have been able to distinguish them. Their extension is less upwards and more outwards. The downward extension is attended by a displacement of the apex beat. I have also noted that the return of movement follows more slowly the diminution of stethoscopic signs and that some limitation remains as a record in cases where permanent damage is done.

The result of a careful examination of many cases of old-standing cardiac disease, with compensatory hypertrophy or dilatation, convinces me that the præcordial stillness is wider than normal. The explanation may be identical with that of normal stillness—the indication may be the physiological record of a pathological fact. I have recently noted the same phenomenon previously to death from ante-mortem clotting.

These observations have been checked by some of my professional friends—Dr. A. S. Dick (now of Glasgow) and Dr. R. Scott Frew who is working with me at present.

When Dr. W. J. Collinson was appointed house physician to the Royal Berks Hospital, Reading, I put the subject before him and asked him to observe. I quote his cases

¹ THE LANCET, Oct. 20th, 1900, p. 1131.