EXTENSIVE VENOUS INFECTION COMPLICATING MIDDLE-EAR DISEASE: THORACIC EMPYEMA: RECOVERY.

BY

NORMAN PATTERSON, M.B., B.Ch.EDIN., F.R.C.S.ENG.,
ASSISTANT SURGEON, GOLDEN SQUARE THROAT HOSPITAL; SURGEON
IN CHARGE OF EAR, NOSE, AND THROAT DEPARTMENT,
CROYDON GENERAL HOSPITAL.

I THINK the following case of recovery after widespread involvement of the venous channels is worth recording. The internal jugular contained infected clot down to a point a short distance from its termination, and the lateral sinus was thrombosed in nearly its whole extent. The condition of the patient for close on three weeks after the operation, with recurring rigors, looked hopeless. The occurrence of a thoracic empyema on the opposite side of the body is of interest. It is worthy of note that the organism responsible for this condition was the *Bacillus coli*, whereas that obtained from the jugular vein was the *Staphylococcus aureus*. It is difficult to judge the effect of the injections of vaccine; their administration was followed by no very definite signs of improvement. This seems, however, a line of treatment that ought not to be lost sight of.

The patient, a boy aged 13, was admitted to the Croydon General Hospital on May 31st, 1910.

Previous History.

For the last two and a half years the patient had suffered from a very offensive discharge recurring at intervals from the right ear. The parents ascribed the onset of the otorrhoea to a blow on the side of the head, which was followed by some haemorrhage from the ear. As long as there was discharge no pain was complained of, but during the periods of freedom from discharge the patient suffered from pain on the right side of the head. He had been treated from time to time by syringing.

On May 10th (three weeks prior to admission) the ear ceased to discharge. On May 24th, the patient vomited in school and came home complaining of pain on the right side of the head and in the back. These symptoms continued and were succeeded by shivering fits, which commenced on the 26th and recurred at intervals. There was no vomiting on the 28th and 29th. On the 30th a swelling was first noticed on the right side of the neck, and the patient vomited again. The bowels had been opened three times during the last six days. Before admission the case had been regarded as possibly one of typhoid fever. The Widal reaction was negative.

State on Examination.

On admission (May 31st), temperature 100.6°, pulse 120, respirations 32. The patient looked gravely ill. In a short time the temperature had risen to 105, and there was a definite rigor. Tenderness but no swelling was present over the right mastoid process, and there was an indurated tender swelling over the upper part of the course of the internal jugular vein. There were no signs pointing to meningitis or cerebral abscess. The spleen was just palpable. The heart and lungs were healthy.

Mr. Charles Wray kindly examined the eyes and reported as follows:

Ophthalmoscopic examination of the eyes showed the left fundus to be quite normal, but the disc in the right eye was distinctly swollen and the outline very obscure, especially upwards and inwards. No haemorrhages could be seen, and though the veins were distinctly full, the distension in no way suggested an impediment to the flow of venous blood such as one would have expected from the presence of the large clots found on opening the lateral sinus.

Operation.

The case being regarded as one of lateral sinus thrombosis with extension downwards of the infection into the internal jugular vein, that structure was exposed in the usual manner. Owing to the induration, the enlarged glands, and the discoloured condition of the vein, some difficulty was experienced in finding it. When exposed it was seen to be thrombosed. An attempt was made to get below the clot by extending the incision downwards. At a point a short distance above its union with the subclavian the vein looked more healthy, although still thrombosed, and a ligature was applied as low down as possible. About 2½ in. of the lower part of the vein was resected; it contained stinking degenerated clot, but no pus. A swab for bacteriological examination was taken. The incision in the neck was covered with gauze, and the mastoid antrum was laid open. The cortical bone was dense and of more than average thickness. The antrum was of moderate size, and contained foul debris, together with a small quantity of pus. Free exposure of the lateral sinus brought into view a discoloured sloughy-looking wall, and, on this being incised, disintegrated clot was found. There was no fluid pus present. More bone had to be removed in a backward direction, and the incision in the sinus was lengthened. Blood clot was removed nearly as far

inwards as the torcular, the last portions appearing healthy. Very free haemorrhage took place at this point, but it was quickly controlled by packing a strip of gauze between the vein and the skull wall. As the patient was showing signs of severe collapse it was necessary to leave the posterior meatal wall and tympanum untouched. The wound was packed with gauze. The incision in the neck was now closed except at the top end, where the internal jugular vein was brought out, and its walls anchored to the skin, and at its lower limit, where a drainage tube was inserted.

After the operation there was great restlessness, pulse 110, temperature 103° F. A pint of normal saline was run into the axilla. This was repeated as necessity arose.

Subsequent History.

For several weeks the patient remained in a very critical condition. The wound in the neck soon showed signs of extensive suppuration accompanied by sloughing; accordingly all the stitches were removed, an open gutter resulting. This, together with the wound in the skull, was frequently flushed out with hydrogen peroxide, and the upper part of the vein was syringed through with the same lotion. The temperature during the first three weeks was of an irregular pyæmic type, ranging from 97° to 104.8° F. There were frequent rigors.

On June 6th a vaccine of the organism (*Staphylococcus aureus*), which was cultivated from the specimen obtained at the operation, was injected. Injections were repeated on the 8th, 10th, and 11th.

On the 7th the patient began to develop a cough, with frothy expectoration, and on the 11th there was a severe fit of coughing, followed by acute pain in the cardiac region, rapid breathing, and collapse. There was no cyanosis. On examination of the chest friction sounds were heard, and were best marked in the region of the apex beat. These distressing symptoms did not last more than a few minutes. On the 12th there was a rigor, and on the 13th and 14th the expectoration, which still continued, was tinged with blood. The chest was again carefully examined, and signs of effusion were discovered on the left side. Clear fluid mixed with flakes of lymph was drawn off with an exploratory needle. The condition of the patient grew worse, and on the 18th a portion of rib below the lower angle of the left scapula was resected under local anaesthesia. About two pints of purulent fluid were slowly allowed to escape, and a large drainage tube was inserted. The patient was given a pint of saline in the axilla. The temperature shortly after the operation dropped from 104.8° to 101.4° F. From the fluid a culture of the *Bacillus coli* was obtained, and the patient was subsequently treated with a vaccine prepared from the organism. The boy from now onwards began slowly to improve, the temperature gradually subsided, and there were no more rigors. At one time the patient complained of pain in the right shoulder, and it was feared that trouble might arise here, but the condition passed off.

By July 6th the temperature was normal, and remained so. The wounds behind the ear and in the neck, which for a long time showed few signs of healing, had now begun to granulate. By August 20th the sinus in the chest was completely closed, the patient had put on weight and felt well. There was still a small granulating area behind the right ear. The ear was dry, and whispered speech was heard at 18 in. The patient has rather a large pad of adenoids, which will be removed subsequently.

My thanks are due to Mr. J. F. Robinson for his valuable help at the operation, and to Mr. R. G. Davidson, the senior house-surgeon, for the great pains and skill which he showed in the after-treatment of the case.

THREE CASES OF MALIGNANT DISEASE OF THE SPINE.

By THOMAS D. LUKE, M.D., F.R.C.S.,

PEEBLES.

PRIMARY malignant disease of the spinal column is, I believe, by no means a common affection. Of the three cases under consideration, only one was primary. The other two, however, were of interest from the vague character of the symptoms in the first place, and the difficulty in diagnosis until a radiograph was taken in one of the cases.

All were sent for treatment during the past year for a comparatively minor affection which was really a symptom of this grave disease, as the course of the cases proved.

CASE I.

Miss J., a teacher, aged 58, in a good state of nutrition, was sent to me in January, 1910, suffering from supposed sciatica. She hobbled into my consulting room with the aid of two sticks; she could not sit down in the ordinary way, but rather fell or collapsed into a chair when she could no longer support herself by means of the sticks. She had enjoyed good health until about a year and a half previously, when the left breast was removed for malignant disease. She complained of increasing difficulty in walking, of inability to go upstairs or