

# A Spinal Cord Tumour

C. J. MACDONALD, '37.

T. N. Male, aged 19.

The patient's present admission to hospital was on October 10, 1933. His family history is negative, and personal history shows that he had scarlet fever nine years ago, and had his tonsils removed eight years ago.

His present illness started seven years ago when he fell while skating, and a sudden burning pain shot down his left side to the groin and down the front of his left thigh to the knee. This pain afterwards returned every time he wrenched or strained his back, but beyond having it strapped once, he did nothing about it until August, 1932, when he was admitted to the Pavilion of the Victoria General Hospital. At this time the patient showed a positive skin reaction to both human and bovine types of B. Tuberculosis, and X-ray of the spin showed a narrowing of the intervertebral space between the 1st and 2nd lumbar vertebrae, but no evidence of bone necrosis. Aided by this evidence, a tentative diagnosis of Pott's Disease was made. X-ray a month later (September, 1932) revealed further narrowing of this intervertebral space, but there was still no bone necrosis, which is unusual in Pott's Disease. A plaster jacket was applied for six months, and when in the following May X-ray revealed no change in the appearance of the spine, another one was applied for twelve months. No further particulars are on record of these two admissions.

In April, 1934, the patient returned to hospital and the cast was removed. His complaints were pain in the left lumbar region radiating to the groin and front of the left thigh, inability to walk, and difficulty in micturition. X-ray showed a small area of destruction involving the inferior margin of the first lumbar and the superior margin of the second lumbar vertebrae, with almost complete obliteration of the intervertebral space. There was evidence of an increase in the pathological condition, but no activity. An X-ray on June 15, on comparison with the previous one, showed some evidence of bone regeneration, while the hip joint showed some absorption of cartilage on the right side, but the articular surfaces were clear. He now had further complaint of numbness of the perineum. The bony changes in the spine were considered arrested at this time, and the patient was allowed to return home for a year.

When he next returned to hospital in April, 1935, he had further developed incontinence of the rectum, numbness of the left buttock, atrophy of the muscles of the left leg, and a scoliosis of the spine to the right. X-ray examination now showed a marked scoliosis with convexity to the right, and evidence of increased cartilage absorption between the 1st and 2nd lumbar vertebrae, but no increase in bone absorption. The hip joint was apparently normal, but the symphysis pubis showed a slight erosion. Further X-ray on May 7th showed no change in the spine, and the patient was put on a Bradford frame and sent home.

On his present admission on October 10, 1935, the patient's complaints were weakness and numbness of legs with muscular atrophy of the left, incontinence of urine and faeces at times, and scalding on micturition at times. Examination revealed impaired sensation of pain, touch and temperature in the area of the left leg, supplied by the last thoracic nerve and the lumbar enlargement, with absence of deep reflexes and foot drop. The right leg also showed absence of knee jerk. The sacral nerves were involved to a less extent. X-ray on admission showed no change in appearance of the spine, and later X-rays showed the cervical and dorsal regions of the cord free of disease. The patient remained in hospital on a Bradford frame without much change in his condition until January 11th, when a spinal puncture showed the following:

Appearance: clear and yellow, Xanthochromia.

Cell count: 9.

Cu reduction: none.

Protein: 4,500 mgms. per 100 mls.

Chlorides: 720 mgms. per 100 mls.

Lange Curve: 0000000000.

Pressure: nil. Did not rise on pressure over Jugular veins.

Diagnosis: The points of importance in the above cerebro-spinal fluid findings are the Xanthochromia, the enormously increased protein, and the absence of pressure of the fluid even when the jugulars were compressed. The last point showed a complete block of the spinal canal and the whole picture strongly indicated a spinal tumour. The last X-ray, taken in January, showed a definite absorption of the left side of the body of the last lumbar vertebrae, the characteristic appearance of a spinal tumour. Having then accepted this tentative diagnosis, it became necessary to decide whether it was a primary or secondary growth. Secondary tumour was ruled out by absence of any evidence of malignancy in thyroid, adrenal, prostate or kidney. Primary malignancy was ruled out by the long history and the absence of any disease in the other sections of the spine. A diagnosis of benign tumour of the spinal cord was tentatively made and operation was decided on.

Operation: An extra dural tumour which had completely eroded the laminae of the 1st lumbar and the 12th, 11th and 10th dorsal vertebrae on the left side was found and removed. The tumour was vascular, grayish, soft and rather friable, and about 3 inches x 2 inches in size. It was encapsulated except where the laminae had been eroded. The cord was sharply angulated opposite the 1st lumbar vertebra, due to compression by the tumour. The dura showed pulsation above the tumour, but not below it. The dura was not opened.

Pathological Report: Gross Appearance—The growth measured approximately 8 x 5 x 3 cm. and was somewhat lobulated with a smooth surface and a fine fibrous capsule. Yellowish areas alternated with areas of haemorrhage and more translucent zones. On section yellowish translucent zones with haemorrhagic points were present. The gross appear-

ance suggested a sarotatous change, but the histological examination proved the condition to be simple and of a neurinomatous nature.

Histological appearances of the tumour are those of a fibro-angio-neuroma originating from the neurolemma or sheath of Schwann, probably of the posterior nerve root. The bony tissue of the laminae and arches are not infiltrated. They show only a pressure atrophy and absorption. The prognosis should be good. In the sections the cells have a pallisade character—cells with long rod-like nuclei and ribbon like protoplasm. They also occur in whorls. There is marked telangiectasis of the vessels which are chiefly of capillary type. Areas of haemorrhage are seen and the stroma consists of fibrous tissue. Only a rare cell shows mitosis.

Progress: The incision healed without infection and the patient's condition improved steadily. There was a complete disappearance of pain. Neurological symptoms are steadily improving at the present time. Sensation is returning in the left leg, the foot drop is improving so that he can now hold his foot in the dorsiflexed position, and he is able to flex his leg about 30°. The incontinence of bladder and rectum have not yet shown any improvement, but there is hope that he may eventually regain at least partial control over them.

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