Medical Memoranda

A Case of Intramedullary Abscess: Recovery after Operation

The following case is recorded because of its rarity and because of the successful result achieved by operation and chemotherapy.

CASE REPORT

A girl aged 6 was admitted to the Children's Hospital, Tehran, in April, 1945. For a month she had complained of backache and had been suffering from diarrhoea and vulvo-vaginitis. On examination it was found that she had an exaggerated lumbar lordosis and some scoliosis in the dorso-lumbar region. Movements of vertebrae in this area were somewhat limited. This stiffness of the back made walking difficult. No abnormal neurological sign could be found. Radiological examination failed to reveal any bony lesion. She was having an evening temperature of 37.5–38° C. The report on the vaginal discharge, which was repeatedly examined, was: "Diverse micro-organisms. Gram-positive cocci and Gram-negative bacilli. No gonococci seen." Diarrhoea and vulvo-vaginitis soon cleared up; but a month after admission, when she was discharged at her mother's request, she still complained of pain in her back.

Seven months later (Dec. 22, 1945) the girl was readmitted. According to her mother the backache had gradually become worse and vulvo-vaginitis had recurred. On examination it was seen that the general condition was poor and walking very difficult. The vertebral column was kept absolutely rigid, with severe lumbar lordosis. There was left foot-drop. The left knee-jerk and both ankle-jerks were absent. No sensory impairment was found. Her evening temperature was 37.5–38° C. Radiographs of dorso-lumbar vertebrae were again normal.

"Oestroform" and vitamin B injections were given without benefit. On Jan. 25, 1946, she was dragging both her feet, and on Feb. 4 there was complete flaccid paralysis of the right lower limb. On Feb. 7 she was put on systemic penicillin therapy—100,000 units were given in three-hourly doses of 10,000 units. The vulvo-vaginitis completely cleared up, but there was no change in her paralytic condition. On Feb. 17 the left lower limb was also completely paralysed and she was complaining of severe pain in her back. Superficial and deep sensations were greatly diminished in both lower limbs. There was retention of urine, but the urine was normal. The white cell count numbered 13,400 (88% polymorphs).

A course of sulphathiazole was started, and within two days a definite sensory level was established and the backache completely

disappeared. Below the level of the first lumbar segment sensation to touch was lost. Pin-prick sensation was also absent except for a small area in the anterior aspect of both thighs. There was faecal incontinence as well as urinary retention with overflow. A radiograph of the spine again showed no abnormality.

In view of the possibility of some infection in the lumbar region, lumbar puncture had not been performed until this date. Puncture was done on Feb. 23. A few millilitres of golden-yellow fluid under low pressure was obtained: albumin, 0.85 mg. per 100 ml.; 20 mononuclear cells per c.mm.; no micro-organisms. Two days later a descending myelography was performed. "Iodamol," 2 ml., was injected through a cisterna magna puncture. As is shown in the accompanying radiograph the opaque substance did not pass below the level of the upper border of the eleventh dorsal vertebra.

The parents were reluctant to consent to an operation, but on March 10 permission was obtained. By this time the patient's general condition was very poor and paralysis of the lower limbs complete.

Operation.—Open-ether anaesthesia was administered. The eleventh and twelfth dorsal laminae were removed. The dura mater was tense; it was carefully incised in the middle line. The cord presented all the appearances of an intramedullary tumour, and had completely filled the canal. In the lower reaches of the opening there were some fibrinous deposits on the nerve roots. On palpation of the cord with two fingers distinct fluctuation could be obtained. The swelling was aspirated exactly in the middle line and 3.5 ml. of frank pus withdrawn. Penicillin, 20,000 units, was introduced into the cavity, but most of it escaped from the puncture spot into the theca. The cord did not completely collapse, and it was thought that this was probably due to oedema. As the patient's condition was unsatisfactory the wound was hurriedly closed. The opening in the dura mater was not sutured. The pus contained a large number of leucocytes, but no micro-organisms could be found. Culture and guinea-pig inoculation were also negative.

On the third day after operation the patient felt the needle-prick in the left buttock when receiving penicillin—10,000 units three-hourly were continued until the seventh day. On the fifth day she could just move her left thigh. On the ninth day stitches were removed, but from one of the stitch holes a few drops of cerebrospinal fluid escaped. The amount gradually increased and the wound had to be reopened on March 21.

The spinal cord was again examined, and fluctuation could still be obtained. This time a larger-bore needle was used for aspiration, and 4 ml. of pus identical with the first specimen was withdrawn. On this occasion the cord collapsed completely, but there was a hard nodule, the size of a split-pea, situated near the end of the exposed cord. Penicillin was again injected into the cavity of the abscess. The muscular layers were sutured with care. The wound healed without any further difficulty.

Sensation and movements slowly returned to the paralysed limbs. On the anterior aspect of the left thigh there was severe hyperaesthesia for some days. Sphincter disturbances also gradually cleared up. A month after the first operation her micturition, and ten days later the defaecation, were under control.

Two months after the first operation she could walk if someone would hold her hand. On Aug. 28, 1946, five months from her last operation, she walked without any difficulty, but her gait was somewhat waddling. In walking, both feet were held in the valgus position. She had no backache and had gained 3 kg. in weight. Her general condition was excellent.

Muscular power of the limbs was good except for some weakness of the anterior tibiales. The left knee-jerk was weak. Both ankle-jerks were still absent. The left plantar reflex was flexor but the right was doubtful. Sensation to touch, pin-prick, and position was normal.

DISCUSSION

An abscess within the spinal cord is a rare condition. Woltman and Adson (1926) published a case of their own, and gave a summary of 29 other cases reported in the literature up to that date. P. K. Arzt (1944) in a review of the literature was able to find 39 cases, including the 29 already referred to. He discussed all aspects of this disease at length and added three cases of his own.

Prognosis in this condition seems to be very poor. Only four cases have been treated successfully by operation, but in one of them paraplegia did not improve. Six other cases were also submitted to operation, but the outcome, as in all other cases, was fatal.

In the majority of cases reported a primary focus of infection had been found. In the above case it is possible that micro-organisms entered the circulation from the known focus of vulvo-vaginitis. In Uhlmann's case, in which multiple intramedullary abscesses were found, the primary focus was a gonococcal urethritis.

In none of the surgically treated cases had chemotherapy been tried, and the successful result obtained in my case is probably largely due to penicillin and sulphathiazole medication.

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