CASE REPORTS AND TECHNICAL NOTES

INTRAMEDULLARY CRYPTOCOCCIC GRANULOMA OF THE SPINAL CORD

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Cryptococcosis is an infection by the organism Cryptococcus neoformans, also known as Torula histolytica. The organism is a yeast-like fungus with special predilection to affect the nervous system. Though the disease is rare, it is now becoming more and more widely recognized. Carton and Mount\(^2\) collected 220 reported cases of torulosis, in 42 of which neurosurgical procedures were performed. Usually the disease is a diffuse affection, though localized infection may occur. The circumscribed collection of the fungus is known as toruloma or cryptococcic granuloma. Balakrishna Rao and Lilauwala\(^1\) and Liu\(^4\) have reported circumscribed lesions of the brain that have been treated by surgery.

Involvement of the spinal cord by cryptococcosis is a very rare phenomenon. In 220 cases, Carton and Mount listed only 10 with spinal cord symptomatology. Of these 10, only 2 showed purely spinal cord symptoms (1 case of Goodhart and Davison\(^3\) and 1 of Carton and Mount\(^3\)). In Goodhart’s case, though laminectomy was done twice, no tumour could be found. Carton and Mount had successfully removed a Torula tumour of the cauda equina and the patient was alive up to the time of reporting.

This paper, as far as we are aware, records the first case in the literature of a circumscribed intramedullary cryptococcic granuloma of the spinal cord that was successfully removed. The patient has been in good health for over a year, with no other manifestation of the disease. The cerebrospinal fluid on repeated examination showed no biochemical or bacteriological change.

CASE REPORT

N.S. 1307. Miss G., an Indian girl aged 17, was first admitted to the Government General Hospital, Madras in September 1952, complaining of pain in the upper part of her back since 1949. This pain radiated forwards around the left side of the chest and occasionally to the right at about the level of the nipple. For the last few months she had had difficulty in walking and felt her legs occasionally give way. On examination then, there were exaggerated jerks in the lower limbs. There was no other neurological abnormality. Roentgenograms of the spine were normal. Lumbar puncture showed clear, colourless CSF with an initial pressure of 80 mm. of CSF rising to 200 mm. on jugular compression. The biochemistry and cytology of the CSF were normal. She was sent home and asked to report for periodic examination.

On Dec. 10, 1952 the patient was readmitted with all the above complaints gradually worsening. Her legs had grown weaker with increasing pain in her back.

Examination. There was mild spasticity of the lower limbs with exaggerated jerks. The plantar reflex on both sides was extensor. There was no sensory loss. The bladder function was normal. Clinically the level of the lesion was clear because of the root pains, occurring at the 5th dorsal segment.

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Roentgenograms of her dorsal spine were repeated and showed no abnormality. Lumbar puncture and manometry were repeated but there was no evidence of any block. The CSF was again normal, with 20 mg. protein and 4 lymphocytes per c. mm.

Lipiodol myelography through the cisternal route was done. Screening revealed a bifurcated obstruction of the iodized oil at the level of the 2nd dorsal vertebra. The swelling was seen to pulsate. The possibility of a vascular tumour or a haemangioma of the cord was considered.

Operation. On Jan. 16, 1953, under endotracheal anesthesia, with the patient in the prone position, the laminae of D9, 3 and 4 vertebrae were removed. The extradural tissues were unusually vascular. The dura mater was opened. The spinal cord was found to be fusiform and bulging over a length of about $\frac{3}{4}$ inch, and it felt tense. There were a few small blood vessels coursing over this part of the cord, and these were coagulated by diathermy. Then the spinal cord was incised in the posterior midline, and the tumour was dissected out of the cord substance very carefully. The dura mater was closed and the wound was sutured in layers.

Course. The postoperative period was smooth. The patient recovered except for some weakness in the right lower limb.

A year later she was found to be normal and healthy. Lumbar puncture at this time yielded normal CSF. No organisms were grown in culture. Roentgenograms of her lungs were normal.

Pathological Study. The specimen was a firm greyish-pink oval tumour mass, measuring $\frac{3}{4}$ in. in length and $\frac{3}{8}$ in. in width (Fig. 1). It appeared encapsulated, there being no adherent nerve tissue over its surface. Fine capillary vessels were seen to course over the mass.

Section of the mass disclosed a cystic cavity containing gelatinous necrotic material. This was surrounded by a moderately thick wall, forming a capsule (Fig. 2).

Microscopic Examination. Section through the mass showed a single cyst with an outer fibrous capsule and containing granular tissue within which were numerous spheroid bodies (Fig. 3). These had the appearance of Torula histolytica—small yeast-like bodies approximately the size of an erythrocyte. They were grouped in jelly-like masses, lying free as though in culture. In the vicinity of the collagenous fibrous wall organisms with a dark central portion and a surrounding greyish-white halo were seen, representing the gelatinous capsule (Fig. 4). Paucity of inflammatory cells was conspicuous. Only a few round cells were present here and there. The fibrous wall was without any appreciable inflammatory reaction.
Figs. 3 and 4. Microphotographs. (Left) Numerous spheroid bodies lying free in the gelatinous granular mass (X160). (Right) Torula histolytica within the granular contents of the cyst. The halo around the spherules represents the capsule of the Torula bodies (X640).

Comment. There was no evidence of any systemic infection in this case. The Torula infection simulated a spinal cord tumour. Radical excision of the circumscribed mass seems to have resulted in a cure in this case. The patient was given no specific antibiotic therapy.

SUMMARY

A case is reported of an intramedullary cryptococcic granuloma of the spinal cord at the 5th thoracic segmental level. This is apparently the first such reported case in the literature, in which surgical removal of an intramedullary toruloma of the spinal cord has been done.

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REFERENCES