CASE REPORTS AND TECHNICAL NOTES

INTRAMEDULLARY CRYPTOCOCCIC GRANULOMA
OF THE SPINAL CORD

B. RAMAMURTHI, F.R.C.S. (Eng.), and V. C. ANGULI, M.D.

Neurosurgical Department, General Hospital, and Department of
Pathology, Madras Medical College, Madras, India

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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 pre-
dilection to affect the nervous system. Though the disease is rare, it is now becoming
more and more widely recognized. Carton and Mount2 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 circumscrib-
ed collection of the fungus is known as toruloma or cryptococotic granuloma.
Balakrishna Rao and Lilauwala1 and Liu3 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
Davison3 and 1 of Carton and Mount2). In Goodhart’s case, though laminectomy
was done twice, no tumour could be found. Carton and Mount had successfully re-
moved 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 cryptococctic 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 walk-
ing 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.
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 D2, 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 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 4 in. in length and 4 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).

Figs. 1 and 2. (Left) The encapsulated tumor mass. (Right) Microphotograph, X10. Section through the tumour showing a single cyst with a fibrous wall and containing granular material.

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.