The intradural tuberculous granuloma is a relatively rare lesion, the natural history of which has been discussed in detail by Bucy and Oberhill. Only 87 cases had been reported by 1938 and a total of 171 by 1956. A search of the literature has revealed only few reports of intradural, extramedullary, spinal tuberculomata from 1950 to this date.

The case presented is of interest, aside from the rarity of the lesion, because of the extent of the block on myelography and the complete absence of a history of overt meningitis.

CASE REPORT

A 31-year-old white male, a chronic alcoholic, was first admitted to the District of Columbia General Hospital on March 5, 1957, with a history of seizures and alcoholic gastroenteritis. Sixteen days thereafter he was readmitted with active pulmonary tuberculosis and was discharged after an unknown length of time. On April 4, 1960 he was readmitted to the Medical Service in a drunken state, vomiting coffee-ground material. When aroused he was confused, disoriented, hallucinating and uncooperative.

Examination. The patient was well developed, thin, chronically ill and appeared older than his age of 31. There was marked nuchal rigidity. Blood pressure was 120/80, pulse rate 140, and temperature 101°F. There were rhonchi throughout both lungs; otherwise the chest and abdomen appeared normal. Neurological findings were thought to be normal except for the patient's confusion and hallucinations. Mention of the patient's past medical history was thought to be normal. There were no pathological reflexes. The patient was confused, disoriented and lethargic and too uncooperative to allow for decisive motor testing or for examination of coordination. A sensory level to pain was found at L1.

Myelography performed on May 21 with Pantopaque demonstrated a U-shaped block at T12 (Fig. 1). Contrast material injected into the cisterna magna revealed a complete block at T2-3 (Fig. 1). When the spinal needle was introduced into the lumbar subarachnoid space the cerebrospinal fluid pressure was below zero and only 3 cc of strong yellow fluid could be aspirated. This fluid coagulated within 15 min. In contrast, the fluid obtained from the cisterna magna was clear and colorless and did not clot.

1st Operation. Laminectomy was performed immediately after myelography and extended from L1 to T10. Neither osseous nor epidural tissue was grossly pathological. When the dura mater was opened a thin (1 to 2 mm.), friable, gray, moderately vascular membrane was encountered resistance; passage caudally was free. At the level of T4 this tissue was 1 cm. thick and indirect, 0.75 mg. per cent); SGO transaminase, 100 units per ml.; sodium, 118 mEq.; potassium, 3.2 mEq.; chloride, 67 mEq.; and CO2, 22 mEq. Acid-fast bacteria were not found in gastric washings. Tuberculin and histoplasmin skin tests were negative.

Roentgenograms of the chest revealed diffuse, nodular densities throughout both lungs. Films of the skull and lumbar and thoracic spine were normal; interpedicular distances were within normal limits.

Course. As the patient's mental status cleared pronounced weakness of his legs was apparent and a neurosurgical consultation was obtained. Reflexes were absent in both lower extremities; his legs were flaccid and ability to move his toes was not consistent, as noted by several observers. There were no pathological reflexes. The patient was confused, disoriented and lethargic and too uncooperative to allow for decisive motor testing or for examination of coordination. A sensory level to pain was found at L1.

2nd Operation. On May 23, the laminectomy was extended to T2 and the remaining granulomatous tissue was removed. At the level of T4 this tissue was 1 cm. in thickness and surrounded the cord in much the same manner as in the case reported by Bucy and Oberhill.
Fig. 1. Block to flow of cerebrospinal fluid as demonstrated after injection of contrast material into the cisterna magna (left) and lumbar subarachnoid space (right).

Fig. 2. Acid-fast bacilli in granulomatous tissue removed at operation (Ziehl-Neelsen staining).
Adhesions to the arachnoid were more extensive than those encountered in the lower thoracic region, but no caseous or purulent material was observed. At the completion of the procedure a catheter could be passed freely under the dura mater.

Pathologic Report. The membrane was composed of edematous fibrous tissue with multiple granulomata diffusely infiltrated by lymphocytes and leucocytes. Ziehl-Neelsen staining revealed acid-fast bacteria thought to be *Mycobacterium tuberculosis* (Fig. 2).

Course. Postoperatively the patient's motor strength has not improved, although his lower extremities now show marked spasticity. He has been treated with streptomycin and INH. Cortisone, discontinued after the emesis of coffee-ground material, seemed contraindicated in view of the history of gastroenteritis and gastrointestinal bleeding.

DISCUSSION

Because of the gross pathology in the chest demonstrated by radiography and poor condition on admission, a tuberculous lesion was suspected. However, roentgenograms of the spine as well as negative epidural findings at operation did not corroborate this diagnosis. Although the lesion under discussion is rare, one must consider intradural surgical exploration, though with a measure of caution, when paralysis and pulmonary tuberculosis coexist without evidence of bony involvement or epidural abscess.

REFERENCES