Surgical drainage of cyst of the conus medullaris

Report of three cases

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Non-neoplastic cystic lesions of the spinal cord are uncommon and those involving primarily the conus medullaris are particularly unusual as judged by the infrequency of their citation in the literature.\(^1\)\(^2\) This communication adds three additional cases and describes a simple procedure which has proved successful in the treatment of this condition.

Case Reports

Case 1

A 35-year-old white woman was admitted to the Orthopedic Service in June, 1966, with a complaint of numbness and tingling in the left leg of 2 months' duration. The numbness had begun along the lateral aspect of the foot and leg and later was followed by progressively increasing pain and weakness in the legs. Pain increased with activity or coughing, and was somewhat relieved at night or with bed rest. She had noted mild urinary incontinence during the week prior to admission. Past history was benign; in particular there was no history of back injury. She had been aware of relatively poor vision in the right eye for as long as she could remember.

Examination. The general physical examination was entirely normal but for diminished vision in the right eye. Weakness preceded evaluation of gait; it was marked in both legs, more marked in the left and more marked distally. Hypalgesia and hypesthesia were present bilaterally from the T-9 through L-2 dermatomes. There was impairment of vibratory and position sense in the left toes. The patellar reflex was brisk bilaterally, the right ankle jerk was normal, but the left was absent. The plantar response was flexor, and there was no umbilical-shift sign. There was diminished tone and strength in the anal sphincter. X-rays of the chest and thoracic and lumbar spine were interpreted as normal. Lumbar myelography demonstrated a complete block at T-12 with evidence of an intramedullary mass at the level of the conus medullaris; spinal fluid protein obtained at that examination was 29 mg%.

Operation. Surgical exploration revealed the conus and proximal filum terminale to be symmetrically distended. The spinal cord immediately above the conus appeared grossly normal. Aspiration of the distended area of the conus produced crystal-clear fluid which on cytologic examination revealed no tumor cells. Protein content of the fluid was 10 mg%. Permanent drainage of the cystic lesion was instituted with a siliconized rubber catheter (see technique under "Discussion").

Postoperative Course. Neurological follow-up 30 months later revealed no abnormality save for a slightly tight left heel cord.
Cyst of conus medullaris

The ankle jerk and sensation have returned to normal.

Case 2

This 17-year-old boy was admitted to the Neurosurgical Service in January, 1966, with a 6-month history of pain in the hips and thighs, and a feeling of heaviness and weakness in the legs. Symptoms increased with activity, but after a period of bed rest both the pain and the weakness seemed considerably improved. There were no symptoms of sphincter dysfunction. Since the age of 6 years he had been followed regularly by the Orthopedic Service for a slowly progressive but otherwise asymptomatic kyphoscoliosis.

Examination. The general physical examination was unremarkable save for kyphoscoliosis and a small cafe-au-lait spot on the shoulder. There was no nystagmus. The cranial nerves and gait were normal. He stood well in the Romberg position. There was mild atrophy and weakness in the dorsiflexors of the feet and toes bilaterally. No fasciculations were present. Sensation was intact except for inability to perceive vibration in the left hallux. Deep tendon reflexes were absent at the ankles, and at all other levels were symmetrically hypoactive. There were no pathologic reflexes. Skull films were normal. Cervical spine films demonstrated a wide anteroposterior diameter of the spinal canal. The thoracolumbar films confirmed a moderate kyphoscoliosis. Mild scalloping was present at T-12. Myelography demonstrated a capacious spinal canal, most evident in cervical and lumbar segments. There was a partial block at the level of the conus medullaris (Fig. 1).

Operation. A thoracolumbar laminectomy demonstrated a symmetrical slight dilatation of the lower cord, more evident at the conus medullaris. Aspiration of the conus produced crystal-clear fluid, which following withdrawal of the needle was noted to escape through the needle tract in small squirts with each pulsation. A small myelotomy in the conus was used to insert catheter drainage. Cytological examination of the fluid was normal, and the protein content was 36 mg%.

Postoperative Course. One month postoperative the ankle reflexes had returned, and strength was normal. The patient has maintained this normal neurological state over the past 3 years.

Case 3

This 73-year-old man developed aching pain in the left hip 3 months prior to admission. Weakness and later numbness of the legs necessitated use of a cane, but there was no bladder dysfunction. As a young adult a mild back injury had required bed rest for 3 days. Five years prior to the onset of the present problem the patient had suffered a stroke-like episode, with unconsciousness, neck pain, and transient leg weakness. He was indefinite on the details of this weakness, but thought he had made a complete recovery.

Examination. The gait was broad-based and unsteady. A marked paraparesis was present, more marked distally. Hypalgesia and hypesthesia involving all lumbar derma-

Fig. 1. Case 2. Anteroposterior view of myelogram to depict distended lower cord shadow, most marked at level of conus medullaris.