Lumbar Intraspinal Extradural Ganglion Cyst*

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Ganglion cysts are commonly found about the wrist and hand.1,5 Theoretically, they can occur at any site in the body where periarticular connective tissue is present. Reports by others have indicated common involvement of various joint regions such as the shoulder, elbow,2,5 hip,9,10 knee,2,5 ankle,2 and axilla.9 These cysts may cause pressure on adjacent peripheral nerves to produce a variety of neurological symptoms.2,10

Recently, two patients consulted us for symptoms suggesting a protruded lumbar intervertebral disc; in each an extradural ganglion cyst was uncovered and removed at operation. Subsequently, an asymptomatic ganglion cyst was found in a third patient.

Case Reports

Case 1. A 52-year-old white woman came to the Mayo Clinic because of pain in her right leg. She had had intermittent low back pain for 10 years, which was initiated by prolonged standing and relieved by lying down. Approximately 3 years before we saw her, she began to have pain radiating into the right leg along the posterior aspect. In the past year, there had been a constant pain in the right buttock, which radiated to the posterior lateral part of the thigh, anterior lateral part of the leg and ankle, and at times to the right big toe. Rest now apparently afforded little relief. On one occasion the patient was awakened at 4 a.m. with excruciating pain in the right buttock. Coughing and sneezing would cause sharp pain down the right leg, and occasional tingling was noted in the right great toe. The patient was never aware of any weakness in the right leg.

Examination. The general physical examination and laboratory studies gave normal results. The thoracic x-ray was clear. The sedimentation rate was 15 mm in 1 hour (Westergren). There was considerable limitation of motion of the lumbar part of the spinal column, with paravertebral muscle spasm on the right. The straight-leg-raising test produced low back pain at 80° with the right leg but no pain up to 90° with the left. The chin-chest test was positive. Tenderness was noted in the right sciatic notch. The right ankle jerk was slightly diminished but there was no motor or sensory deficit on neurological examination. X-rays of the lumbar spinal column revealed some degenerative joint changes at several levels, associated with a minimal degree of scoliosis with the convexity toward the left side.

A myelogram (Pantopaque) showed a large, spherical, extradural deformity at the L4–5 level on the right side, suggesting the possibility of a tumor rather than a protruded intervertebral disc (Fig. 1). Spinal fluid pressure was 170 mm H2O with no block; the concentration of protein was 37 mg/100 ml, and there were 2 lymphocytes/1 cu mm of fluid.

Operation. Right partial hemilaminectomy at L-4 was performed, and an extradural, cystic mass about 1 cm in diameter was encountered, arising under the pedicle between L-4 and L-5. The ligamentum flavum was adherent to the mass which in turn was pushing the common dural sac and nerve root toward the midline. On further dissection, the cyst ruptured and a yellow gelatinous fluid gushed into the operative field. The cyst including its wall was completely removed, and the base along the pedicle was electrocoagulated. The pedicle was not disturbed. The intervertebral disc was explored and found to be normal. The wound was closed in the usual manner after placement of a silver clip for x-ray identification. The excised cyst exhibited a dense, fibrous wall (Fig. 2).

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Postoperative course. The postoperative course was uneventful. The patient obtained complete relief of pain and was dismissed from the hospital on the ninth postoperative day. She was able to participate in sports without discomfort 3 weeks after dismissal.

Case 2. This patient was 45 years old when he first was seen at the Mayo Clinic in August, 1950. In 1943 while engaged in the sport of curling he had had two episodes of "catches in the back" which lasted several hours. In 1944 he had severe low-back pain after reaching for a shot while playing squash. He had been unable to work for 3 weeks but recovered on a regimen of bed rest, hot packs, and a firm bed. In May, 1950, he was awakened during the night by a low lumbar backache; there was no radiation into the leg. The next day his temperature was 103°F (by mouth). A cough or sneeze did not intensify the back pain.

First examination. X-rays of the lumbar spine showed increased bone density and roughening of the articular facets, thought to be a result of rheumatoid spondylitis. A myelogram (Pantopaque) in August, 1950, revealed a normal subarachnoid space. The spinal fluid protein content was 15 mg/100 ml with 1 lymphocyte/1 cu mm. The blood sedimentation rate was 13 mm in 1 hour (Westergren). The patient was discharged after a short hospitalization (5 days) and had been in good health with no complaints of backache.

Readmission. When the patient returned to this clinic in June, 1966 (now 62 years old) she complained of "catches in the back" lasting several hours. The pain was not radiated into the leg. She had been in good health with no complaints of backache.

Fig. 1. Case 1. Myelogram (Pantopaque) showing large, spherical, extradural mass at L4–5, located dorsolaterally on right side.

Fig. 2. Case 1. Fibrous wall of cyst with no synovial lining. Calcium deposits are represented by larger, dark, irregular structures in wall. H. & E., X75.