Paraspinal myxoma with spinal cord compression

Case report

Ali Tahmouresie, M.D., Peter M. Farmer, M.D., and Norman Stokes, M.D.

Departments of Neurosurgery, Pathology, and Radiology, Downstate Medical Center, Brooklyn, New York

A patient with thoracolumbar paraspinal muscle myxoma with spinal cord compression presented with a long history of back pain and recent paraparesis. Removal of the tumor and decompression of the spinal cord provided marked improvement of the weakness.

KEY WORDS • myxoma • paraparesis • paraspinal muscle • spine • spinal cord tumor

Myxomas originating from the skeletal muscles have been reported only rarely. We are presenting a case of myxoma of the thoracolumbar paraspinal muscle, with erosion of the T11-12 spinous processes and laminae, epidural mass effect, and spinal cord compression.

Case Report

This 50-year-old man entered Kings County Hospital in March, 1977, with the chief complaints of severe back pain and progressive gait disturbance. His history began 30 years before with the development of sudden midback pain when he bent to pick up an object. He was treated medically with bed rest and analgesics, with complete relief of his symptoms. Since then he had been suffering from occasional, intermittent back discomfort until about 2 years prior to his present admission, when the pain worsened and began to radiate to the left lower extremity involving the toes. Two weeks before admission he started limping, and finally became bedridden. Two months earlier, he had noticed a painful lump on his back in the lower thoracic area. He denied any sphincter problems.

Examination. He was found to be in moderate distress. Vital signs were normal. Systemic physical examination, mental status, cranial nerves, and upper extremities were normal. Examination of the back disclosed a large, nonfluctuant tumor, 7 × 12 cm in size, that was tense and painful, located deep in the left paraspinal muscles of the lower thoracic area. Motor examination of the lower extremities revealed mild atrophy of the quadriceps, with normal tone, and bilateral weakness as follows: left hip flexion 3/5, right hip flexion 4/5, left knee extension 2/5, right knee extension 3/5. Ankle flexion and extension were 2/5 on both sides. Plantar and dorsal flexion of the toes were 0/5 on both sides. Deep tendon reflexes were absent at the knees and were 2+ at the ankles. Plantar reflexes were extensor, and abdominal cutaneous responses were absent bilaterally. The rectal sphincter was normal. Sensory examination showed moderate impairment of all modalities below the level of the L1 dermatome, with sparing of the sacral segments. Laboratory data showed a slightly increased white blood cell count, with a normal differential. Serum alkaline phosphatase, calcium, and phosphate values were within normal limits.

Plain film radiography (Fig. 1) demonstrated the presence of a large, well marginated cystic area, and remnants of cortical bone. The lesion spanned the T11–12 disc space on the left side, but showed no evidence of direct involvement of the soft tissue or of the vertebral body and end-plates. There was dissolution of the left superolateral aspect of the T-11 vertebral body, along with the pedicles, portions of the facet joint, and adjacent laminae. A bridging osteophyte formation on the right side at T11–12 was perhaps an indication of chronicity of the process.
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Myelography (Fig. 2) demonstrated a nearly complete block to the cephalad flow of contrast medium at the T-12 level. The block appeared to be extradural, with displacement of the cord and subarachnoid space toward the right. The level of the block corresponded to the level of bone abnormality.

Operation. The thoracolumbar fascia was incised through a midline incision. The bulk of the tumor could be felt in the left paraspinal muscles. The muscle layer was dissected off the tumor, disclosing the gray, lobulated tumor capsule (Fig. 3). The base of the tumor was firmly attached to the underlying muscles. Upon incision of the capsule, a large volume of white gelatinous material rushed out. There was no infiltration of the soft tissue by the tumor, but widespread erosion of the T11-12 spinous processes and laminae could be identified. A laminectomy from T-10 to L-1 disclosed the presence of tumor in the spinal epidural space along the posterior, left lateral, and anterior surfaces of the dura mater. The spinal cord dura appeared to be compressed by the mass, but there was no evidence of infiltration. The T-11 and T-12 vertebral bodies were eroded posteriorly by the lesion, but there was no firm attachment of tumor to the bone, nor was the tumor bed vascular.

Pathological Examination. The tumor appeared partially encapsulated by thick fibrous tissue. The main portion of the mass consisted of 500 cc of amorphous, gelatinous, tan-colored, translucent material. On light microscopy (Fig. 4), the tumor was composed of stellate cells, occurring singly or in small groups and with elongated cell processes branching and anastomosing with each other. Intercellular matrix was abundant, and stained positively with alcian blue and faintly pink with mucicarmine. Nuclei were round or spindle-shaped, with regular chromatin patterns and no mitoses. The lesion was poorly vascularized with no necrotic foci. Lipoblasts, bizarre cells, hypercellularity, and other malignant features were clearly absent. The underlying paravertebral muscle was not invaded by the tumor, but several atrophic and necrotic fibers were found, thought to be the result of compression.
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Enzinger found 17% of 200 cases of soft-tissue myxoma to be located in the muscles, most commonly in the thigh. In 1973, Ireland, et al., reviewed 58 cases of myxoma, of which 39 were intramuscular, 33 being in the thigh. Other locations include the deltoid and gastrocnemius muscles.

There are several points of interest in the present case. First, the unusual location of the tumor in the paraspinal muscle; second, erosion of bone, epidural mass effect, and spinal cord compression seem to be unique. Most tumors in the spinal epidural space are malignant and metastatic in nature. The history of slow clinical progression, and the radiological and pathological findings are consistent with a chronic, slow-growing tumor. Definite diagnosis and surgical intervention lead to relief of symptoms and restoration of function.

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References


Address reprint requests to: Ali Tahmouresie, M.D., 1330 North Indian Avenue, Palm Springs, California 92262.