Chondromyxoid fibroma: a rare cause of spinal cord compression

Case report

P. S. Ramani, M.B., B.S., M.S.
Department of Neurosurgery, Newcastle General Hospital, Newcastle upon Tyne, England

A rare case is reported in which a primary chondromyxoid fibroma of the 12th rib spread into the epidural space of the spinal canal to cause spinal cord compression. The benign nature of the tumor is stressed and the only other reported case reviewed.

KEY WORDS · chondromyxoid fibroma · spinal cord compression

Chondromyxoid fibroma is a peculiarly differentiated bone tumor apparently derived from cartilage-forming connective tissue. It is extremely rare in the ribs and vertebral column. Benson and Bass in 1955 reported the first case of primary chondromyxoid fibroma of the vertebral column causing spinal cord compression. Ours is the second such case to be reported. Schajowicz and Gallardo, while reporting 31 cases of chondromyxoid fibroma from the tumor registry in Texas, included a primary tumor of the vertebral column, which, however, did not cause neurological symptoms.

Case Report

A 44-year-old man was admitted to the neurology service of the Newcastle General Hospital on July 15, 1971, with genitourinary complaints and sensory and motor deficits. Eight months earlier he had become impotent and unable to ejaculate. Two months later he had developed hesitancy of micturition. Recently he had developed frequency, nocturia, and occasional incontinence. Over the same period he had noticed a lack of sensation when his bowel was full and occasionally had been incontinent of feces. For the last 5 months he had noticed numbness of the scrotum, penis, and buttocks, and the right leg felt very cold especially below the knee. Two months before admission he had developed weakness of the right leg, and it was this that finally brought him to the doctor.

Examination. The patient appeared healthy but showed a loss of sensation to touch, pinprick, and pain in the lower sacral dermatomes and loss of joint position and vibratory sensation in the legs. There was bilateral gross weakness of the hip flexors, hamstrings and dorsiflexors, evertors, invertors, and planter flexors of both feet. Tendon reflex responses were absent in the legs and the left plantar response was extensor. The bladder was distended up to the umbilicus. Routine hematological and
biochemical investigations were normal. Lumbodorsal spine films showed flattening of the pedicles of T-12 and L-1 with increase in the interpedicular distance, and erosion of the undersurface of the right 12th rib producing a corticated margin. Lumbar cerebrospinal fluid (CSF) was clear and colorless with 920 mg% of protein. The myelogram showed complete obstruction to the upward flow of Myodil at L-1 due to extradural compression.

Operation. A lumbodorsal laminectomy from T-11 to L-2 was carried out the day after admission. A sizable, dorsally placed extradural tumor was excised; it was gelatinous, avascular, and well-circumscribed, extending over the right side of the dura (Fig. 1). The tumor peeled off readily from the dura and was totally removed at the expense of the L-1 root.

Pathological Examination. The tumor tissue was largely formed of wide areas of vacuolated myxoid matrix in which there were relatively few scattered cells. The generally small cells had indistinct outlines and varying shapes, some being stellate, others irregular, and the remainder spindle-shaped. The cell cytoplasm was occasionally vacuolated and gave rise to cytoplasmic processes which in a few areas were long and prominent. Cell nuclei were hyperchromatic, and multinucleate tumor cells were rare. In addition to the myxoid areas, there were extensive sheets of chondroid tissue and here the tumor cells lay within well-formed lacunae; the associated intercellular matrix was homogeneous (Fig. 2). The histological appearance was that of a chondromyxoid fibroma.

Postoperative Course. The patient did very well during the postoperative period. When the catheter was removed on the third postoperative day, he was able to pass urine, and the muscle power was satisfactorily improving. He was then referred to the department of general surgery for removal of the extraspinal tumor involving the 12th rib. When seen 2 months later he was neurologically normal.

Discussion

Chondromyxoid fibromas are well-circumscribed, lobulated, benign tumors of bones. They were first described as a separate entity in 1948 by Jaffe and Lichtenstein. Since then a little more than 100 well-documented cases of chondromyxoid fibromas have been reported. They are common in the leg bones, especially the
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tibia and femur,\textsuperscript{3,11,12} and chondroid and myxoid traits are the cytological hallmark of the lesion.\textsuperscript{3,8,11} It is essential to appreciate their benign nature, as in the past they were misinterpreted as chondrosarcomas necessitating radical treatment.\textsuperscript{2,10} However, wide excision is the treatment of choice. All cases of recurrence reported\textsuperscript{5,10} were treated by curettage. Malignant transformation is rare; in only two cases did the tumors show malignant changes.\textsuperscript{4,6}

Since chondromyxoid fibromas are essentially benign tumors of younger people, being most common in the second decade, the prognosis is usually very good.

Acknowledgments

I would like to thank Mr. R. M. Kalbag, consultant neurosurgeon, for granting me permission to report this case, and Dr. G. Pearce, consultant neuropathologist, for reporting the histology of the tumor.

References

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Address reprint requests to: P. S. Ramani, M.B., B.S., M.S., Department of Neurosurgery, Newcastle General Hospital, Newcastle upon Tyne, England.