Osteochondroma of Cervical Spine causing Spinal Cord Compression

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INTRODUCTION

Osteochondromas are common benign tumours of bone that often occur in the metaphysiodiaphyseal parts of long bones. Besides the more common solitary form, some are multiple when associated with hereditary multiple exostosis, an autosomal dominant trait.¹ [4, 6] Osteochondromas rarely occur in the spine.¹ [1,3,5,8] Spinal cord or root compressions have been reported as a rare pathological condition. They may cause neurological symptoms as a result of compression of the spinal cord or nerve roots.⁷, ⁶, ⁹ Complete surgical excision of the tumour results in definitive cure.¹ [1,10,11] We present a case of osteochondroma arising from the C3 vertebral lamina, causing neurological symptoms, in view of the rarity of the condition and should be thought of in the differential diagnosis of spinal cord compressive myelopathy.

ABSTRACT

A report of a patient with osteochondroma of the upper cervical spine causing cervical compressive myelopathy. The surgical treatment of this patient involved the complete removal of tumor and decompression of neural structures. Osteochondromas affect mostly the long bones. Involvement of spine by solitary osteochondromas is a rare condition. The present report represents a case of spinal osteochondroma causing neurologic symptoms. Cervical osteochondromas causing cord compression, best evaluated by routine magnetic resonance imaging and noncontrast computed tomography scans, rarely contribute to cervical nerve root compression. The patient’s symptoms gradually resolved after gross total tumour removal. Symptomatic spinal osteochondromas are rare occurrences in an individual surgeon’s experience. Computed tomography or magnetic resonance imaging are the procedures of choice. In the majority of patients with myelopathy or radiculopathy, surgery results in complete relief of symptoms as demonstrated in this case.

Keywords: Osteochondroma, spinal cord compression, cervical spine.

CASE REPORT

A twenty-year-old male patient presented with complaint of neck pain of six months duration. Pain was dull aching, increased during night time and on lying down posture and during neck movements. Pain was not relieved with medication. Pain was associated with weakness of right hand and paraesthesia. Patient was unable to hold the pen and write for long time. Since one month there is stiffness of the right lowerlimb. No history of bowel and bladder incontinence. On examination there was right hand grip weakness and 4/5 power on dorsiflexion of right wrist. Reflexes are exaggerated on right half of body with upgoing plantar. There was graded sensory loss from C4- C7 dermatome to touch and pain on right side. Neck movements are restricted. There was tenderness against C4- C5 spinous process. MRI showed a solitary bony projection arising from the C3 vertebral
The lesion was explored through a posterior approach in midline. The mass was bony hard involving the neural arch of C3 on right side. C3 and partial C4 laminectomy was done. Total excision of tumour done, completely clearing the spinal cord compression. Histopathology showed cartilaginous cap in continuous with bony trabeculae and intervening bone marrow cells, suggestive of osteochondroma. [Figure 2] Neck pain resolved in the course of first post operative week. Post operative CT revealed that decompression was complete with no residual mass. [Figure 3] At the end of three months patient was self ambulatory and motor power improved to 4+/5. There was no recurrence at the end of one year.
DISCUSSION

Osteochondroma, also called exostoses are the most common benign tumors of the bone. Osteochondromas affect mostly the long bones, particularly the distal femur and tibia. While the rate of solitary osteochondromas arising from the spine is 1.3- 4.1% in the literature, involvement of the spine in hereditary multiple exostosis is 7.9%. In the study of Albrecht et al on spinal osteochondroma, 505 of the subjects showed cervical involvement, with C2 being the most affected vertebra. Spinal osteochondromas more commonly arise from the posterior arch but they may arise from the vertebral body, pedicle or rarely from the facet joints as well. Patients consulting for pain or presence of a local mass may often show early signs of neurological deficits. Khosla et al reviewed the literature and reported that of 72 cases of spinal solitary osteochondroma, 37 had spinal cord compression. An increased incidence of spinal cord compression has been reported in hereditary multiple exostosis cases when compared with solitary osteochondroma. Mean age at presentation ranged from 13- 45 years (mean 25.3 years). The clinical features depend on the site of involvement and present with radiculopathy, myelopathy, or myeloradiculopathy. Magnetic resonance imaging is useful in localizing the lesion, along with X-ray and CT scan.

No treatment is necessary for an asymptomatic spinal osteochondroma. If the lesion is causing pain or neurological symptoms due to compression it should be excised at its base. As long as the entire cartilage cap is removed, there should be no recurrence.

Total excision of tumour with decompression of neural elements is the treatment of choice for intraspinal osteochondromas.

CONCLUSION

Osteochondromas, the most common tumoral lesions of the skeletal system, may rarely involve the vertebra. Symptomatic spinal osteochondromas are rare occurrences in an individual surgeon’s experience. These lesions particularly occur in the cervical region and should be considered in the differential diagnosis, when confronted with an expansile mass. MRI imaging can diagnose spinal cord compression. Excision of the lesions is necessary for the treatment of neurological compression. Surgery results in complete relief of symptoms as demonstrated in this case.

REFERENCES