Case Report

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Cervical Osteoblastoma: A Rare Primary Spinal Tumor

Osteoblastoma is a rare and benign osteoid producing primary bone tumor that affects mainly the long bones.It makes 5% of spinal tumors,mostly arising within the posterior elements of the spine within the second and 3rd decades of life. We managed an 18 year old patient with osteoblastoma of C6 vertebra.

Key words: Osteoblastoma, C6 vertebra, spinal tumors

The initial symptoms of the tumor may be non specific neck or back pain which often goes undiagnosed. When it affects the vertebral column,the posterior elements are more commonly involved. Long bones like tibia and femur are also commonly involved. Osteoblastoma is histologically similar to osteoid osteoma. Some people would like to distinguish the two by size alone; with lesions less than 1.5 cm diagnosed as osteoid osteoma.[5]

Osteoblastoma has the propensity for spine, is more aggressive, doesn't have a nidus, doesn't cause a severe night pain and neither does it improve with aspirin unlike in osteoid osteoma.

Case Report

An 18 year old patient presented to the outpatient with history of neck pain for duration of 6 months and left upper limb radiculopathy for 2 months. The pain was excruciating and he was unable to move his neck in either direction.

There was no history of trauma, fever and night pains and no motor weakness. On examination, the patient had a normal neurological examination except for pain while neck movements.

An MRI was done which revealed heterogeneously enhancing extradural lesion in the spinal canal on left side of C5 C6.The tumor was away from the vertebral artery foramina. **(Figure 1)** A plain CT of the cervical spine revealed a bony lesion involving the lamina and pedicle of C6 vertebra on the left side.It was causing narrowing of the neural foramina on the same level. **(Figure 2 A and B)**

The patient was taken for OT. He was operated in prone position with exposure of left sided lamina. Hemilaminectomyof C6 vertebra was done and the tumor was drilled out. It was a vascular tumor with involvement of lamina and pedicle, bleeding was controlled with bone wax. Nerve root at C5-6 foramina was decompressed. As part of the pedicle was free of tumor and hence preserved, fixation was not performed.

Post operatively the patient was free of radiculopathy

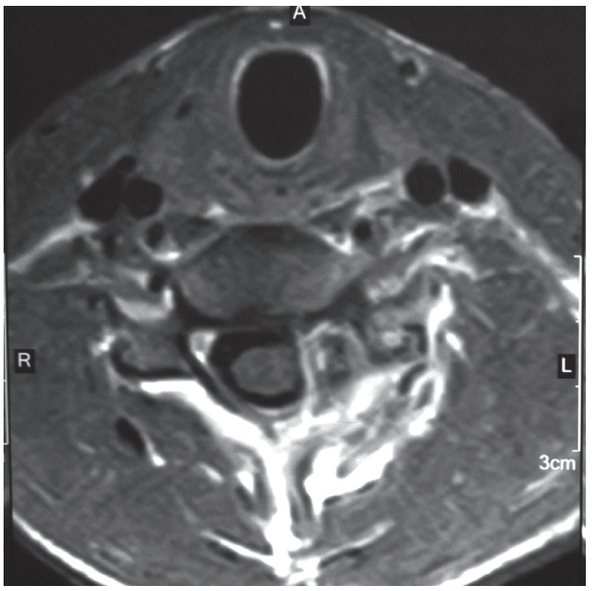

Figure 1: Axial MRI showing heterogeneously enhancing lesion in the left spinal canal with bony involvement and some soft tissue involvement.

but had residual neck pain which improved over a week.Plan is to perform an annual CT spine to see any recurrence.

The histopathology revealed haphazardly arranged woven bone with areas of hyaline cartilage. Bony trabeculae lined with osteoblastic cells were also seen. **(Figure 3)**

Discussion

Osteoblastomaoccurs predominately during the firsttwo decades, in accordance with ourcase. Most of these lesions arise within the posterior elements of thespine. Vertebral body involvement rarely occurs alonebut may be involved via tumor extension through thepedicle.[6]

The most important symptoms in patients with osteoidosteoma and osteoblastoma are a resistant localized neck orback pain and stiffness in the spine.[4]These general symptoms are often present for longerthan 12 months prior to diagnosis. Delayed diagnosisoccurs because initial symptoms are often nonspecific and osteoblastoma accounts for less than 1 % of all bone tumors.

Imaging modalities used to diagnose osteoid osteomaand osteoblastoma are primarily CT and MRI.Plain X-rays aremore useful in the detection of osteoblastomas, but may miss small neoplasm.Since osteoblastoma is a vascular tumor, pre op embolization has been suggested to decrease blood loss and facilitate total excision.[2]

The aim of surgical treatment is to have a complete

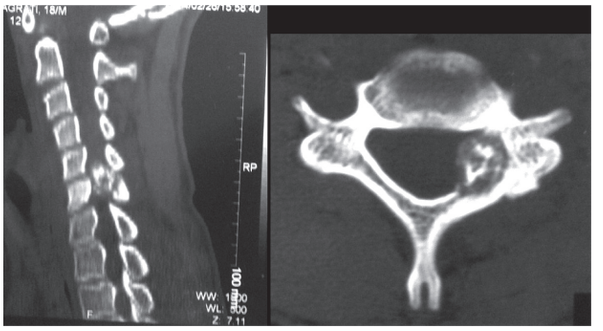

Figure 2: Sagittal and axial CT scans showing involvement of left lamina and pedicle of C6.

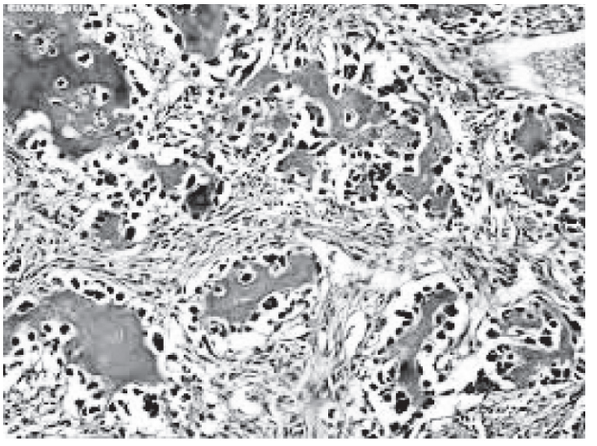

Figure 3: H&E stain showing woven bone with hyaline cartilage suggestive of osteoblastoma

excision with free margins, decompression of neural tissue and fixation of the spine when deemed necessary.

Despite complete surgical excision, recurrence occurs in around 10 %.[1, 2]

Vertebral artery injury during surgical excision a C3 -4 osteoblastoma has been reported from China.[3]

Radiotherapy is limited to tumors where complete excision is not possible or the tumor continues to grow despite excision. However, malignant transformation after radiation therapy is reported. [2]

Conclusion

Persistent neck pain in a young patient can be because of spinal tumors. Proper investigation and surgery can lead to a successful outcome.

Acknowledgement

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