

Giant Cervical Spine Osteochondroma in an Adolescent Female

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ABSTRACT

Osteochondroma or osteocartilaginous exostosis is by far the most common benign bone tumour, which accounts for 35% to 50% of benign bone neoplasms and 10% to 15% of all primary bone tumours. Osteochondroma represents a developmental enchondromatous hyperplasia which leads to formation of cartilage capped bony protrusions on bony surfaces. We present a case report of a 14-year-old female, who presented to us with a hard, gradually progressing, large painless swelling, over the left side of her neck. Swelling was nontender, extending from dorsal to ventral aspect, measuring 6 x 8 cm. Therefore, we are interested in introducing our case to medical fraternity, in which a giant lower cervical spine osteochondroma was seen in an adolescent female patient.

Keywords: Cervical spine, Osteochondroma, Adolescent female, Surgical excision

CASE REPORT

A 14-year-old female presented to the outdoor department at our institute, with a large painless and, gradually progressing hard swelling over the left side of her neck. The swelling increased upto the present status within four years. Local examination revealed a bony hard, nontender, globular mass measuring 6 x 8 cm and extending from dorsal to ventral aspect of the neck on the left side. The mass seems to be continuous with lower cervical vertebra, C5 and C6 [Table/Fig-1]. There was no history of trauma, fever, weight loss or loss of appetite. Movements of the neck, particularly the rotation towards left, were restricted due to mass effect of exostosis. There was no associated soft tissue swelling or oedema. There was no neurological deficit in the patient. Patient was hospitalized for further management.

Diagnostic work-up

A plain radiograph of the cervical spine (AP and lateral view) showed an irregular calcified mass (exostosis) in left paravertebral region, at C5-C7 level [Table/Fig-2]. Computerized tomography scan of the cervical spine with 3D reconstruction was done, which showed a well defined, pedunculated fungating mass with a calcified cartilage cap, measuring about 4.3 x 3.7 x 2.3 cm, arising from the left transverse process of C6 Cervical vertebra [Table/Fig-3]. CT scan of the cervical spine also showed corticomedullary continuity with the C6 vertebra [Table/Fig-4]. There was no canal extension of the exostotic growth.

Treatment

We planned total excision of the exostosis and the excised specimen was subjected to a histopathological examination. Patient was

operated under general anaesthesia and the exostotic growth was approached by a transverse skin incision which was made directly over the growth [Table/Fig-5]. After operation, the neck movements of the patient began to improve. A check X-ray of the cervical spine, including AP and lateral views, was done in the postoperative period, which showed complete removal of the exostosis [Table/Fig-6]. Histopathological examination of the excised specimen confirmed it to be an osteochondroma. At the time of last follow-up examination one year after the surgery, no clinical or radiological sign of recurrence of the tumour growth in the cervical spine was seen.

DISCUSSION

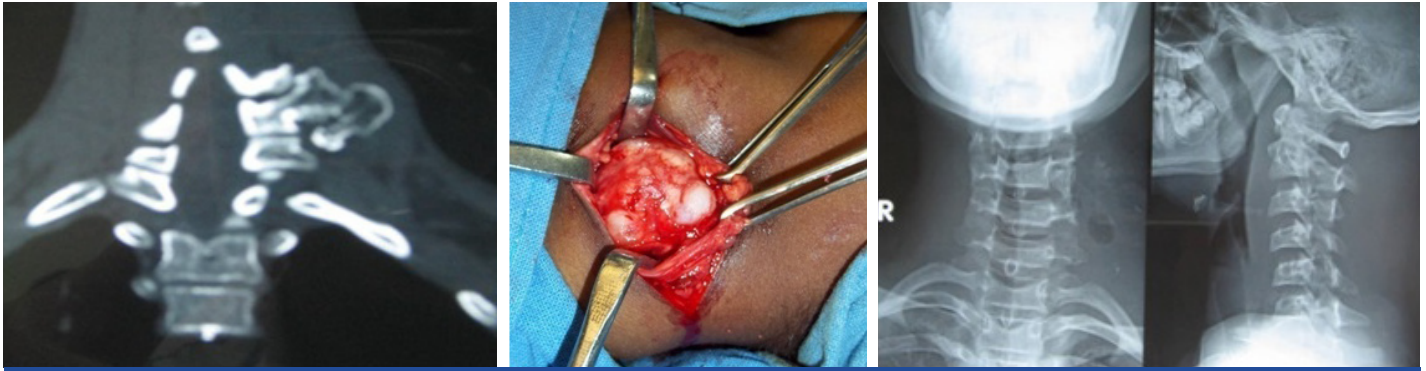
Osteochondromas occur more frequently in men with a M:F ratio of 2.5:1, and patients are generally under the age of 20 years [1,2,3]. Among the spinal exostosis, the osteochondromas usually localize in the upper cervical spine. However, our case was a bit different in both its gender occurrence as well as its location in the lower cervical spine. The noted complications of cervical osteochondromas include, compressions of vertebral artery, subclavian artery and the common carotid artery [1,4,5] as well as other neurological complications. In our case, there was no neurological deficit. However, there was a limitation in neck movements caused by the effect which arose from the large mass of the osteochondroma. Computerized Tomography scan is helpful in differentiating the cartilaginous and bone components of the tumour, and also its relationship with the surrounding peripheral structures, including the neural tissues can be also determined [1,6,7] by CT scan. Magnetic resonance imaging (MRI) is also helpful for the demonstration of spinal cord or nerve root compressions [7]. Exostoses are thought to arise as a



[Table/Fig-1]: Showing a hard large globular swelling on the left lateral aspect of the neck

[Table/Fig-2]: X-rays of the cervical spine AP and lateral views showing exostosis arising from left paravertebral region at C5-C7 level

[Table/Fig-3]: CT scan of cervical spine showing a well delineated, pedunculated fungating mass with calcified cartilage cap arising from the left transverse process of the C6 vertebra



[Table/Fig-4]: Axial CT scan cut showing corticomedullary continuity between exostosis and the parent vertebra from which it is arising

[Table/Fig-5]: Exostotic growth was exposed through a transverse skin incision directly over the growth

[Table/Fig-6]: Postoperative x-rays of the cervical spine showing complete removal of the exostosis from the vertebra

result of aberrations which occur in the normal epiphyseal growth. An intralesional excision of an osteochondroma is associated with a high recurrence rate. However, once an osteochondroma is removed along with its cartilage cap, its recurrence can be prevented.

CONCLUSION

Cervical spine osteochondromas can be successfully managed by complete surgical excisions, including removal of their cartilage caps, to prevent their recurrences.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Oct 15, 2013**

Date of Peer Review: **Dec 21, 2013**

Date of Acceptance: **Feb 07, 2014**

Date of Publishing: **May 15, 2014**