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Rare Case of Osteochondroma of Spine

KEYWORDS: Osteochondroms; Cervical spine; Spinal tumor; Rare

DR ANKUR PATEL
Madhuvan Society, Near Ananadnagar, At & PO & Ta: Ider, Dist: Sabarkantha-383430.

DR G D THARADARA
Madhuvan Society, Near Ananadnagar, At & PO & Ta: Ider, Dist: Sabarkantha-383430.

ABSTRACT *Osteochondromas are common benign tumors most often occurring in the meta-diaphyseal region of long bones. Spinal osteochondromas, however, are rare. Only one to four percent of osteochondromas occur in the spine. The Author reports a rare case of osteochondromas of cervical spine in a young female which usually occurs between 5th – 7th decades. 28 year old female patient presented with persistent neck pain posteriorly with palpable mass without radiculopathy since 2years.Radiografic evaluation was done suggestive of bony overgrowth in lower cervical region. Magnetic resonance imaging and CT scan suggested possibility of exostosis. Patient was operated for wide resection of it. She was followed up post operatively. At present Patient is better clinically and also radiologically.*

INTRODUCTION:
Osteochondromas are common benign tumors most often occurring in the meta-diaphyseal region of long bones. Spinal osteochondromas, however, are rare. Only one to four percent of osteochondromas occur in the spine. Spinal osteochondromas arise from the spine in 1% to 4% and 7% to 9% of people without and with hereditary multiple exostoses, respectively. They most commonly arise from the cervical portion, with C2 being the most frequently affected level. Within the spine, they more commonly arise from the spinous and transverse process, but can also arise from the vertebral body, pedicle, and rarely the facet joints. Radiological modalities in osteochondroma evaluation include plain radiographs, CT, MRI, and bone scintigraphy. MRI can be of use if malignant trans-formation is suspected. Bone scintigraphy can evaluate for the presence of additional osteochondromas, which are found in approximately 50% of patients with a cervical spine osteochondroma .Treatment is complete surgical excision. The outcome is usually favorable.

Case report:
28 year old female patient present with complains of

- Persistent pain in neck region since 2 years
- Palpable solid mass in posterior aspect of neck
- No radiculopathy in both upper limb and lower limb

On examination patient has-

1. local tenderness in lower cervical region with palpable mass
2. Neurology-

- tone normal ,
- power full,
- reflexes and sensation normal,
- bladder bowel function normal.

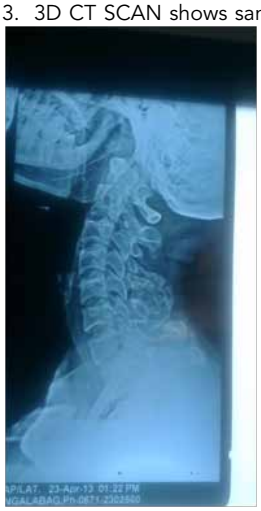
Radiological Investigations
1. X-rays

- Suggestive of cortical calcification (pop corn calcification) with bony out growth in lower cervical region (C6).

2. MRI shows

- Well defined bony out growth arising from spinous process of C6 vertebral body on right side.
- Well defined hyper-intence cartilage cap around C6

3. 3D CT SCAN shows same findings



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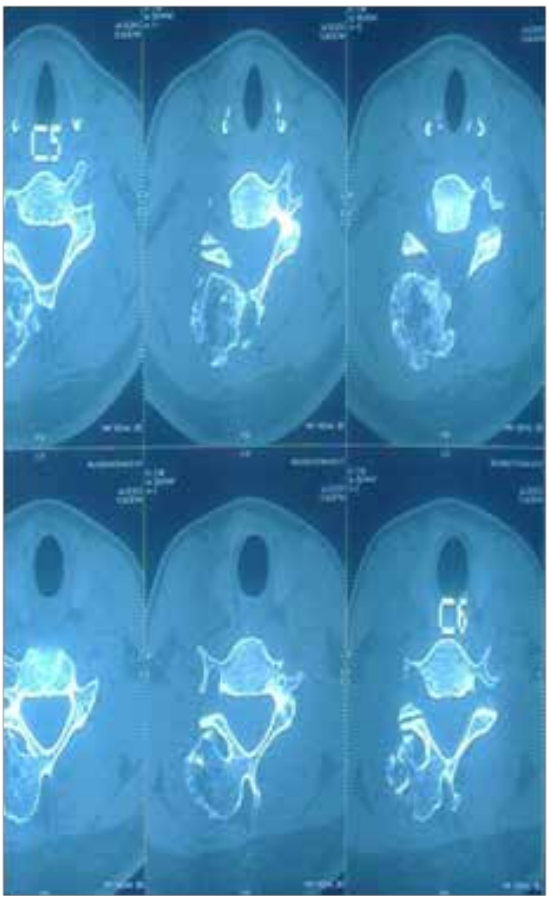
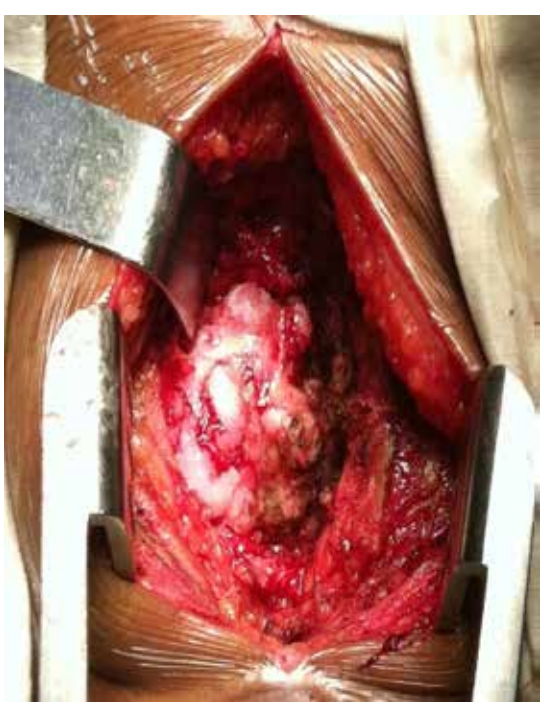
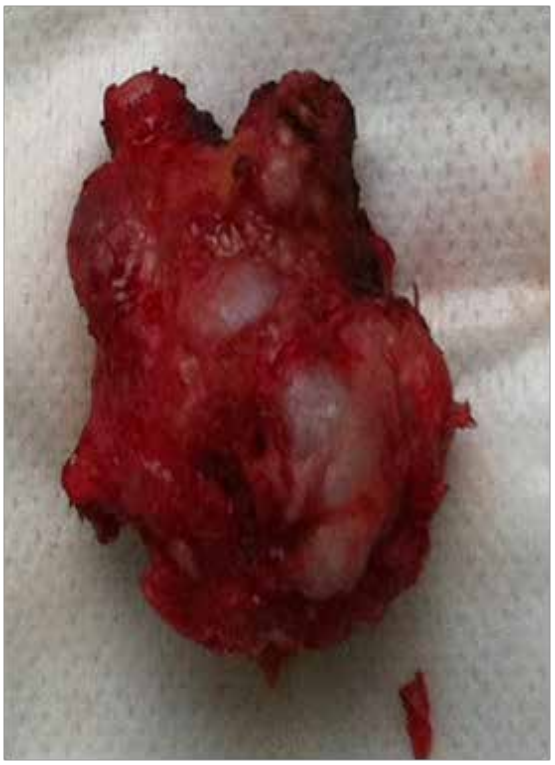


Diagnosis was established by above radiological findings suggestive of exostosis.

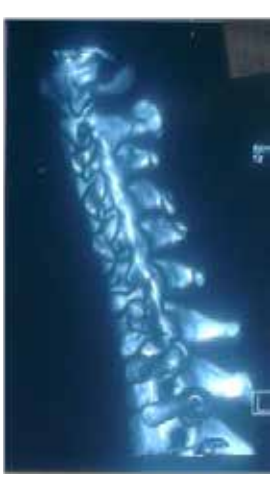
Treatment:

Patient was operated through posterior cervical midline approach. Tumor removed "into to" with base of posterior cortex of lamina without complete laminectomy.





Post operative X ray and CT scan confirmed complete en bloc resection of osteochondroma.



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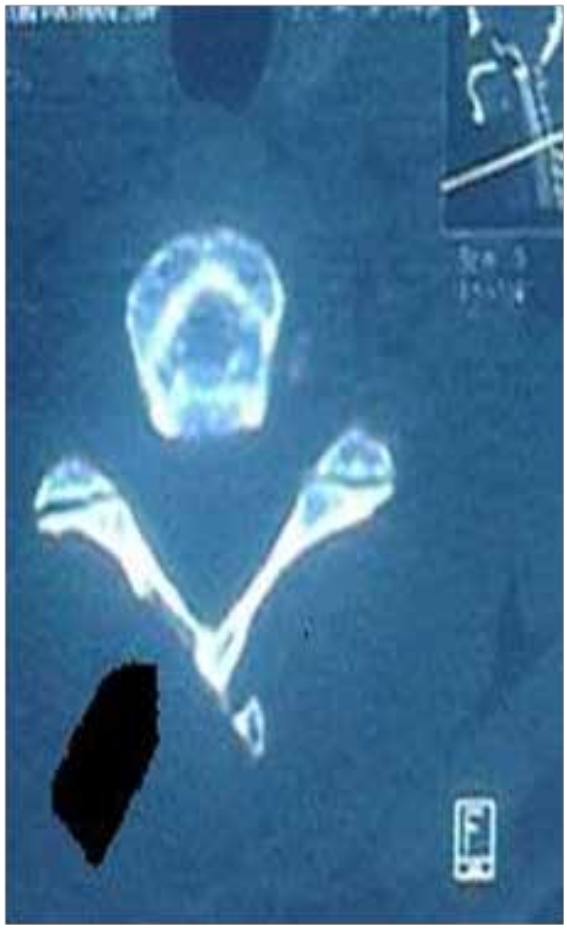

Histo-pathology examination of tumor revealed osteochondroma.

In post operative period, cervical collar was given for 2 weeks and neck exercises were explained.

At 6 month follow up, patient had no complain of pain or recurrence of the swelling. Clinical and radiological examination confirmed no recurrence.

DISCUSSION:

Osteochondroma is a common tumor of the skeletal system. These neoplasms are believed to arise through lateral displacement of a portion of epiphyseal cartilage. Based on this, many pathologists consider osteochondromas to be developmental anomalies rather than true tumors. Their origin means that these growths are found in all sites where endochondral ossification occurs.

Osteochondromas manifest as sessile or pedunculated bony excrescences with periosteum and cortex that are continuous with those of the host bone. They occur in two different patterns, namely, solitary lesions with no genetic component or as multiple lesions known as hereditary multiple exostoses. As mentioned, osteochondromas usually affect long bones. Spinal involvement is rare, especially in the solitary form. Only 1.3% to 4.1% of solitary osteochondromas arise in the spine, whereas roughly 9% of patients with hereditary multiple osteochondroma have spinal lesions. Solitary and multiple osteochondroma are more common in males than females, with a male-to female ratio of about 1.5:1.Most patients are 20 years of age or younger. The clinical manifestations vary widely. The tumors may present as painful sites or as palpable masses that may or may not be painful Neurological signs are exhibited when the lesion involves the spinal canal and these tumors may cause radiculopathy or myelopathy. Neurologic disease is the result of progressive encroachment of the slowly expanding osteochondroma on neural structures.

In this case C6 vertebra was involved but review of the literature indicates that the upper cervical vertebrae are the most frequently involved cervical vertebrae, particularly C2 The tumor usually originates from the neural arch and is most often located to sites of secondary ossification, commonly near the tip of the spinous process or transverse processes. Nevertheless, osteochondromas can arise at any location in the vertebra, and there are reported cases of lesions originating from the intervertebral joints, the pedicles, sites of costo-vertebral articulation, and the vertebral body.

Spinal osteochondromas are more difficult to detect on plain Radiographs, probably because of the complex image that the spine forms (13). When visible, they typically appear as pedunculated or sessile bone-like projections. In our case, plain radiographs showed a smooth calcified mass arising from the tip of the spinous process of the sixth cervical vertebra. CT demonstrates bone detail very well, as our patient's scan showed. Nuclear magnetic resonance imaging is superior to CT for defining an extra-dural intra-canalicular component of the tumor and any dural compression. Surgical treatment should be performed as soon as the tumor becomes symptomatic, or for cosmetic reasons. In our patient's case, "Increasing swelling over the posterior aspect of neck with persistent neck pain" was the indication for surgical intervention. The aim of surgical treatment should be to remove as much of the tumor as possible with cartilage cap of base without causing functional deficit. We had done complete removal of base of tumor including posterior cortex of lamina. All the published cases of cervical spine involvement showed improvement after a decompression procedure.

Conclusion:

OSTEOCHONDROMA of spinous process of cervical spine is rare condition which should be diagnosed early with good imaging and treated with definitive treatment modalities, having better patient clinical as well as radiological outcome.

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