



osteochondroma of thoracic spine - A case report

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Abstract :

An osteochondroma, one of the most common benign bone tumors. Osteochondroma mostly arises from growing end of metaphysis of appendseal skeleton, by enchondral ossification. Very rarely arises from axial skeleton. Osteochondroma of spine usually arise from neural arch of cervical and thoracic vertebra and compression of spinal cord is seen more often in hereditary multiple exostosis than in solitary lesion. We report a case of solitary osteochondroma arising from the neural arch of T7 vertebra without neurological deficit.

Keyword : osteochondroma, dorsal spine

Introduction: An osteochondroma, or osteocartilagenous exostosis, is one of the most common benign bone tumors. It consists of a bony base or stalk with a cartilage cap that projects from the normal bone away from a nearby joint. A fibrous tissue capsule or bursa typically covers the cartilage surface. Osteochondromas may develop from proliferation of cartilage-forming

periosteal cells or from a defect in the fibrous tissue surrounding a physis and therefore likely represent a developmental disorder instead of a neoplasm. Osteochondroma mostly arises from growing end of metaphysis of appendseal skeleton, by enchondral ossification. Very rarely arises from axial skeleton. Osteochondroma of spine usually arise from neural arch of cervical and thoracic vertebra and compression of spinal cord is seen more often in hereditary multiple exostosis than in solitary lesion(1)(2)

We report a case of solitary osteochondroma arising from the neural arch of T₇ vertebra without neurological deficit.

Case report 9 year old female patient came with complains of swelling over back (picture 1) since birth, which gradually increase in size, attain present size. Not associate with pain or fever. No history of loss of weight or loss of appetite. On examination 3x3.5 cm, non tender, bony hard swelling present in inter scapular region midline. Swelling extended from T6-T8 spinous process. Swelling not mobile. Skin over the swelling normal .

There were no similar swellings in any other parts of the body. The neurological examination and orthopedic examination was normal.



picture 1



Picture 2



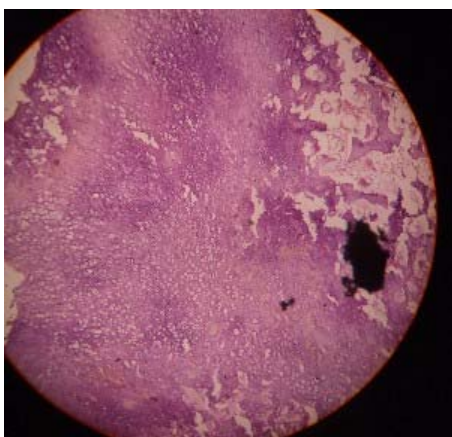
Picture 3

Plain X ray AP and lateral view of the thoracic spine showed expansile lesion with irregular calcified mass present over T7 posterior element which extend to T6, T8 spinous process. Plain CT of thorax (picture 2 & 3) revealed the evidence of expansile lesion seen to arise from spinous process & lamina of T7 vertebra extend above and below to T6, T8 spinous process with the lesion showing mixed density with central dense calcification. Mass shows central hypodensity represent trabecular pattern. Pedicles are normal. Mass was not extending in the spinal canal. Excision biopsy of the tumor was planned. Under general anaesthesia, patient in prone position. Midline vertical incision over the tumour.

Trapezius was dissected, paraspinal muscles were incised along the fibres to expose the tumor. Capsulated mass was seen on spinous process, lamina of T7 vertebra (picture 4). En bloc excision of the tumor was carried out. Tumor revealed a hard mass measuring 3x3.5x2cms along with multiple grey white bony pieces. The mass appears partly encapsulated and cut section shows slightly friable grey white tissue mixed with haemorrhagic areas.



picture 4 Picture 5



Microscopic picture (picture 5) showed a benign neoplasm consisting of a mixture of osteoid tissue and cartilage. The cartilaginous tissue had normal appearing chondrocytes. The lobules were intermingled with osteoid elements and marrow. The whole lesion is encapsulated in a fibrous capsule. The histopathological examination was suggestive of osteochondroma. Postoperative course was uneventful and patient got relieved of his symptoms after surgery. Discussion Dahlin and Unni have suggested that osteochondromas account for 36% of all benign bone tumors and that multiple exostosis constitute approximately 12% of all symptomatic lesions⁽⁵⁾⁽⁷⁾. Between 1.3 to 4.1% of solitary osteochondroma arise in spine⁽⁴⁾; approximately 9% of patients who are affected by hereditary multiple exostosis harbours spinal lesions. Osteochondromas are thought to arise through a process of progressive enchondral ossification of aberrant cartilage of a growth plate as a consequence of congenital defect or trauma. Half of patients with symptomatic tumour are younger than 20 years old, which is consistent with the growing cartilaginous cap. Males are affected three times more often than females, with most lesions protruding eccentrically from the neural arch. Because the spinal canal is occupied by spinal cord

in the thoracic and cervical spine, lesions here are more frequently symptomatic⁽⁸⁾. Ninety-one percent of osteochondromas occur in the cervical and upper thoracic spine, although the lumbar spine and sacrum also are affected. The lack of symptoms may result in under diagnosis of lesions in the lumbar and sacral regions⁽⁹⁾⁽¹⁰⁾. Radiographic evaluation often is diagnostic, with the lesions found most often in the posterior elements. Because of the radiolucent cartilaginous cap, however, MRI or myelography may be necessary to determine if impingement of the neural structures is present. These lesions are slow growing and require excision only if symptomatic. Malignant transformation occurs in less than 1% of tumour and is suspected when symptoms are rapid in onset with growth of a previously stable osteochondroma. A cartilaginous cap larger than 1 cm also is suspect. En bloc excision including all of the cartilaginous cap is done, with neurological recovery the rule and recurrence the exception.

Conclusion

Solitary osteochondroma in spine is rare presentation. Excision of tumour is needed, if patient is symptomatic or cartilaginous cap >1 cm.

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