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CASE REPORT

Osteoid Osteoma of Cervical Spine: A Rare Presentation

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ABSTRACT

Osteoid osteoma of cervical spine is rare, and only few cases are reported in scientific literature. We report a case of osteoid osteoma of cervical spine treated at our tertiary care hospital in Mumbai.

Keywords: Osteoid osteoma, Cervical spine, Benign bone tumor.

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INTRODUCTION

Osteoid osteoma is a benign bone forming tumor in any bone in the body. About 10% of cases involves the spine. More than 50% of spinal cases involves the lumbar and cervical spine. Among spine, lumbar spine is commonest site and cervical being the 2nd most common. Osteoid osteoma was first described by Jaffe[2] in 1935, afterward Jaffe[3] and Linctenstein[4] independently defined benign osteoblastoma as a different entity in 1956. The vast majority of these tumors are observed in patients younger than 30 years of age.[1,5,6] Patient generally presents with neck or upper back pain and various degree of painful limitation of head rotation not relieved by ordinary analgesics. We here report a case of osteoid osteoma of cervical spine diagnosed by magnetic resonance imaging (MRI), computed tomography (CT) scan, bone scan, gallium scan and managed.

CASE REPORT

A 24 years young male presented with severe pain in the left side of the neck gradually increasing since 1.5 years. Pain was diffused in nature and continous radiating to left arm. No history of fall, fever, injury, lifting of heavy weight, vigorous activity. Patient was initially treated for tuberculosis of cervical spine and given antitubercular treatment (ATT) for 10 months, but no improvement was found clinically and radiologically.

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On examination, tenderness present over left side of neck at level of C3 to C4. Range of movement around neck is terminally restricted and painful. Neurological examination was unremarkable with normal muscle strength. The laboratory findings were within normal limit.

Radiographic evaluation of cervical spine was essentially normal (Fig. 1).

Computed tomography scan of cervical spine shows a small distinctly marginated osteolytic lesion with small nidus along left superior facet of C4 vertebrae, possibly osteoid osteoma (Fig. 2).

Magnetic resonance imaging scan of cervical spine shows well defined rounded hypointense lesion involving the left superior articular facet of C4 vertebral body with adjacent marrow edema, most likely osteoid osteoma (Fig. 3).

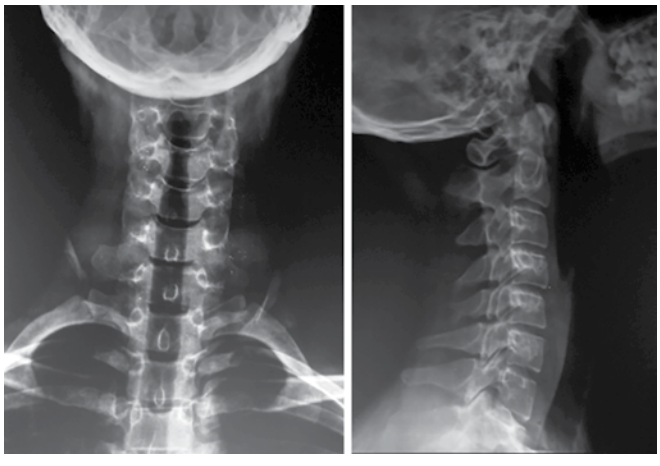

Fig. 1: Normal radiographic evaluation of cervical spine

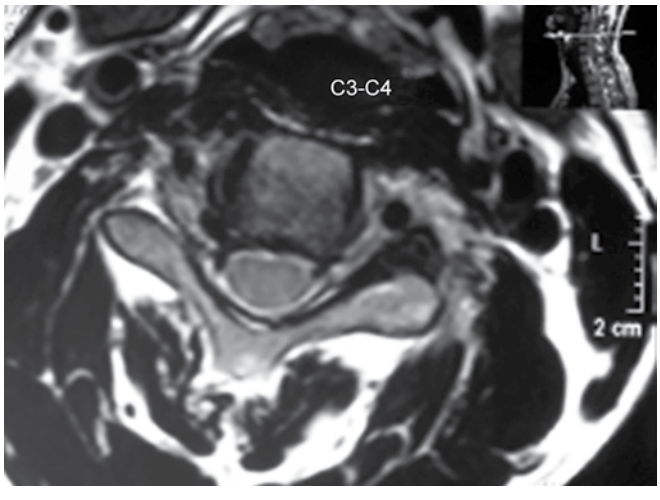

Fig. 2: CT scan of cervical spine showing a small distinctly marginated osteolytic lesion with small nidus along left superior facet of C4 vertebrae

Bone scan report concluded well-defined focal area of increased osseous activity in C4 vertebra likely represent osteoid osteoma (Fig. 4).

Gallium scan reports suggested no evidence of active infective pathology in C4 vertebra with likely presentation of osteoid osteoma (Figs 5 and 6).

Patient was managed surgically. Midline incision was given over neck, after dissection, a bony elevation was felt at level of C3 to C4 vertebrae left side. First inferior facet of C3 was excised followed by excision of superior facet of C4 vertebrae with excision of osteoid osteoma lesion. With the help of high speed burr, margins were cleared. Lateral

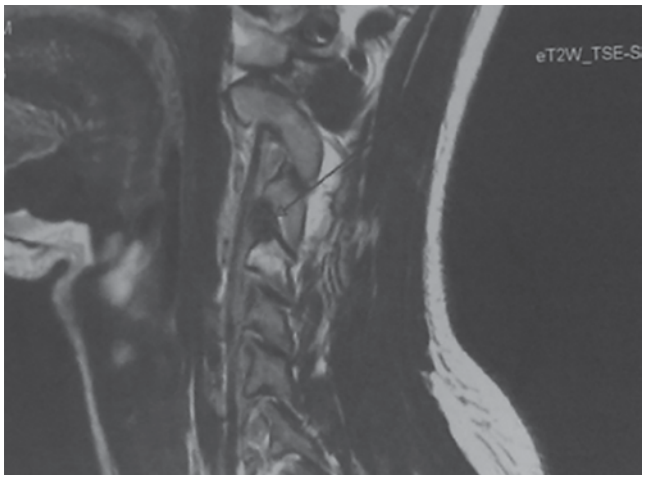

Fig. 3: MRI of cervical spine showing well-defined rounded hypointense lesion involving the left superior articular facet of C4 vertebral body

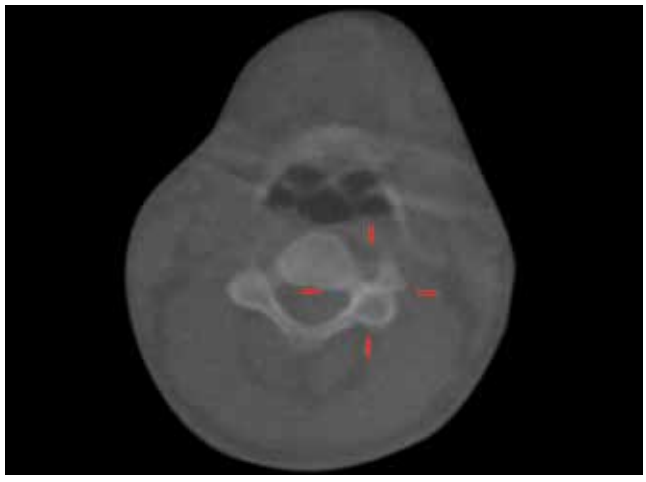

Fig. 4: Bone scan report concluded well-defined focal area of increased osseous activity in C4 vertebra

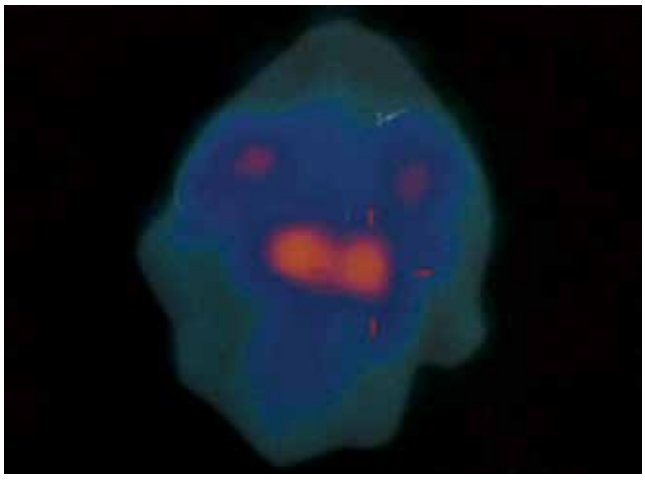

Fig. 5: Gallium scan reports suggested no evidence of active infective pathology in C4 vertebra with likely presentation of osteoid osteoma

Fig. 6: Gallium scan reports suggested no evidence of active infective pathology in C4 vertebra with likely presentation of osteoid osteoma

Fig. 7: Intraoperative view with pedicle screw

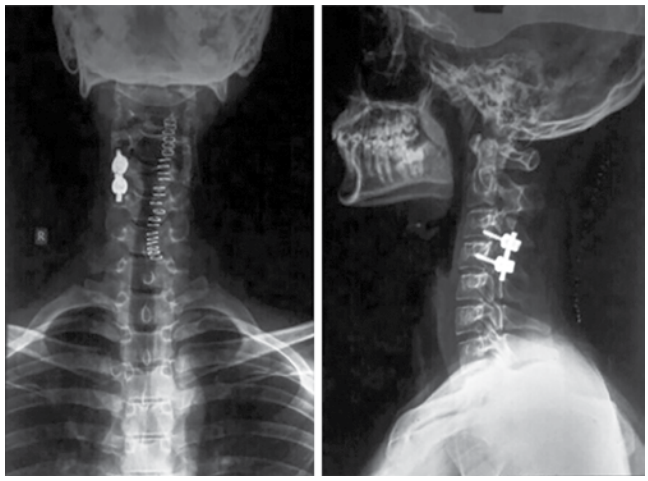

Fig. 8: Postoperative X-ray showing fixation of cervical spine

mass fixation (Fig. 4) of C3 to C4 vertebra was done in the right side under general anesthesia. Intraoperative specimen was sent for histopathological examination which confirmed the diagnosis of osteoid osteoma of C4 vertebra.

RESULTS

Postoperatively (Fig. 8), patient was comfortable and previous severe and continuos pain was relieved except for surgical site pain which was reducing gradually. At the day of suture removal on postoperative day 14 patient was absolutely pain free. Histopathological examination confirmed the diagnosis of osteoid osteoma of C4 vertebra.

DISCUSSION

Osteoid osteoma is a benign bone tumor consisting of a highly vascularized nidus of connective tissue surrounded by sclerotic bone.

Patients with osteoid osteoma are usually younger and rarely present after 30 years of age. Approximately, half of all cases present between the ages of 10 and 20 years. The male, female ratio is 2 to 4:1.

Diffuse continous pain and local tenderness is the presenting complain in most of the patients. X-ray may be normal.

Radionuclide bone scanning is more reliable than radiography. The intense osteoblastic activity within the nidus results in a focal uptake surrounded by a decreased uptake owing to the sclerotic bone creating the 'Double density' sign that is typical.[7]

Computed tomography (CT) is the most reliable imaging modality in the diagnosis.[8] Typically, dense sclerosis surrounding a lytic lesion that may have a central calcific nidus is noted.

On MRI, osteoid osteoma demonstrates a heterogeneous appearance. The calcification within the nidus and surrounding bony sclerosis are of low signal intensity on short time to repeat (TR) and long TR images.[9] Hence, the nidus is usually less conspicuous on MR images depending on the extent of calcification.

Computed tomography scan is the most reliable imaging modality in the diagnosis and further investigation like MRI, bone scan, gallium scan, etc. further adds to its reliability.

Osteoid osteoma is generally resistant to normal analgesia. After surgical treatment, there is relief in the symptoms in short course of time.

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