

Case Report**Osteoid Osteoma of Cervical Spine in two adjacent Vertebrae***MR. Etemadifar MD**, *AR. Ebrahimzadeh MD***, *M. Karimian MD******ABSTRACT**

Osteoid osteoma is a benign bone tumor, mainly seen in 10-30 years male. Spine is a relatively common site and almost always, posterior elements are involved. Plain X-Ray-, CT scan and Isotope scan help to identify and localize spine lesions.

We described one 18 years old boy with 3 years low neck pain. Isotope scan, MRI and CT scan showed two lesions in C7 and T1. Gross inspection and histopathology examination confirmed osteoid osteoma in two adjacent vertebrae which has not been reported elsewhere in the literature.

Key words: Osteoid Osteoma, Spine, Multifocal

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Osteoid osteoma is a benign bone tumor mainly seen in 10-30 years males and rare over 40 years^{1,2,3}. Spine is a common site of involvement and cervical spine is the second most common site after lumbar area⁴.

Posterior spin elements especially pedicle & lamina are almost always involved. Its diameter is often less than 2 centimeters. There are some reports of multifocal osteoid osteoma in the literature⁵⁻⁹.

The first and common symptom is pain. Patients complain of increasing pain in the affected area. Typically, the pain is worse at night and with activity and relieved by salicylates especially aspirin¹⁰. Natural history of the tumor generally is spontaneous regression.

In radiographic imaging, the nidus appears as a small radiolucent area within an extensive reactive dense sclerotic bone, and CT scan is the best imaging modality for showing it¹⁰.

Effective treatment is excision of nidus which is recommended for spinal lesions in children and adolescent in order to prevent structural deformity⁴.

Case report

The patient was an 18 years old male presenting with 3 years low neck pain at cervicothoracic junction. The pain was persistent without any radiation and exacerbated at night. Initially, the pain was relieved with NSAIDs, but recently the response was diminished. The patient had no history of trauma or other diseases in the past.

Physical examination revealed slight torticollis to the right side, local tenderness in right lower cervical area and slight limitation in right side bending. Isotope scan showed increased uptake in the posterior elements of C₇, and body of T₁ vertebrae.

Two plain X-Rays were reported as normal. MRI T₁ weighted images showed low signal intensity in the body and right posterior elements of T₁ vertebrae and right posterior elements of C₇ vertebrae. MRI T₂ weighted images showed high signal intensity in the body and right posterior elements of T₁ and moderately high signal in right posterior elements of C₇ vertebrae (Figure1).

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Figure 1: Sagittal MRI of cervical spine

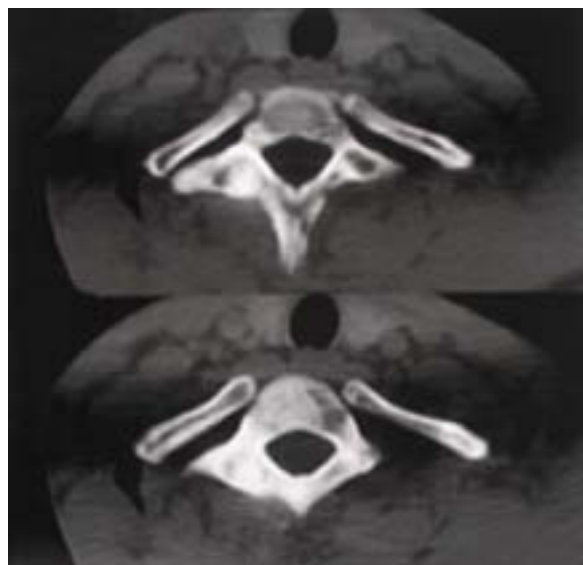


Figure 2: Axial CT scan of lamina

CT scan showed classic pattern of osteoid osteoma in right lamina of T₁, and sclerosis and expansion in right lamina of C₇ (Figure 2).

The patient was candidate for excision of osteoid osteoma from the posterior approach. Portable X-ray was used for level identification. In gross examination, there were sclerosis and expansion in right lamina of C₇ and T₁. Excision of both lesions was performed with sharp curved osteotome and send for histopathologic examination, separately. Both lesions were reported as osteoid osteoma.

The patient was discharged with a rigid cervical collar while the pain was diminished after one week. In 3, 6 and 12 month follow-ups the patient was pain free completely and its neck motion was improved.

Discussion

Considering the relatively common presentation of the osteoid osteoma in the spine and review of literature, we couldn't find any previous report of osteoid osteoma involving two adjacent vertebrae. But there are several reports of two osteoid osteoma in one vertebra, or metachronous osteoid osteoma⁶⁻⁹.

Long duration of pain in our patient, typical X-ray appearance of T₁, and sclerosis and ex-

pansion (without nidus) in C₇ vertebrae confronted us with problem in diagnostic work up. Although MRI is not recommended for diagnostic approach to suspicious osteoid osteoma, in our patient MRI paid our attention to the presence of two adjacent lesions.

There are several methods for treatment of osteoid osteoma: NSAIDs therapy and observation, radiofrequency ablation, laser ablation and surgical excision. Considering long duration of our patient symptoms, site of the lesion (spine adjacent to neural elements) and presence of two lesions in two adjacent vertebrae (one typical and one atypical), we selected an open surgical approach.

Gross inspections of both lesions were similar as expansion, sclerosis and thickening of right lamina of C₇ and T₁. After through excision (up to anterior cortex of lamina), although we could not find nidus, we were almost certain about complete excision of the lesions.

Microscopic examination and gross inspection of both lesions confirmed osteoid osteoma in two adjacent vertebrae without any similar report in literature.

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