Osteoid Osteoma of the Trapezoid Bone

Dawood Jafari MD1, Farid Najd Mazhar MD†

Abstract

Osteoid osteoma is a benign, bone-forming tumor that rarely involves the carpal bones. We report a case of osteoid osteoma of the trapezoid carpal bone with extension to the adjacent second metacarpal bone. Chronic wrist pain and local tenderness were the major clinical signs and symptoms. In chronic wrist pain osteoid osteoma and the possibility of extension to the adjacent bones should be considered.

Keywords: Carpal bone, metacarpal, osteoid osteoma, trapezoid

Case report

The patient was a 42-year-old right-handed male who presented to the hand clinic with complaints of right wrist pain since 15 months previous. Initially, the pain was dull and increased in intensity after physical activity. He underwent casting twice because of the possible diagnosis of occult ganglion and sports injury. It has been reported in the scaphoid and lunate areas; however, the trapezoid is an exceedingly rare location for osteoid osteoma. Bifocal involvement of adjacent carpal bones has been reported previously but to the best of our knowledge extension of osteoid osteoma through the joint to adjacent bone has not been mentioned in the literature.

Introduction

Osteoid osteoma is a benign bone tumor that rarely localizes to the carpal bones.1,2 Wrist pain usually is the main complaint and because it rarely involves the carpal bone, diagnosis is often delayed. It has been reported in the scaphoid and lunate areas; however, the trapezoid is an exceedingly rare location for osteoid osteoma. Bifocal involvement of adjacent carpal bones has been reported previously but to the best of our knowledge extension of osteoid osteoma through the joint to adjacent bone has not been mentioned in the literature.

Discussion

Primary bone tumors rarely arise from the wrist and if present the majorities (86%) are benign. The most common histological type of tumor is osteoid osteoma.3 Osteoid osteoma has been initially reported in 1935 by Jaffe.4 The long bones are frequently involved by osteoid osteoma, whereas bones in the hands and wrists are affected in only 6%–13% of cases. Approximately 10% of osteoid osteomas involve the small bones of the hands and feet, with a greater frequency in the hands. In the hands, the phalangeal bones are more frequently involved.5 Involvement of the carpal bones is rare. The scaphoid is the most common site of carpal bone involvement followed by other bones such as the capitate, lunate and hamate.6 Involvement of the trapezoid is extremely rare but has been reported previously.7 The least common which has been reported by Alcalay et al. is bifocal involvement of the adjacent carpal bones.8 Patients with carpal bone osteoid osteoma usually present with wrist pain and no remarkable past medical history. Symptoms may resemble tenosynovitis or the pain may be attributed to a recent trauma or sports injury. Pain usually worsens at night and can be reduced or eliminated by aspirin or other non-steroidal anti-inflammatory drugs. In most cases primary imaging studies such as plain X-rays appear normal and the classic appearance of nidus with a sclerotic rim is a rare presentation with osteoid osteoma of the carpal bones.9 In a technetium-99m bone scan, the lesion is detected as an intense well-defined focal area of increased uptake in all three phases.10,11 CT scan with thin slices will usually show the nidus. Thin-slice CT is the most specific, whereas MRI is.


Archives of Iranian Medicine, Volume 15, Number 12, December 2012 777
the most sensitive imaging study for investigation of carpal bone osteoid osteoma.13 Bone edema can be demonstrated by MRI and intraosseous edema with soft tissue changes related to the synovitis generate high-intensity signals on T2-weighted fat-saturated images. With variable signs and symptoms the diagnosis in most cases is not easy. Diagnosis is usually delayed and in many circumstances patients undergo unnecessary investigations and even surgical interventions.8,9,14 According to most authors the technique of choice in treatment of osteoid osteoma is open surgery and thorough curettage after preoperative CT scanning.1

This is a report of a rare case of osteoid osteoma in the trapezoid carpal bone which is a very rare location for this benign tumor. In this case osteoid osteoma from the trapezoid showed extension through the joint to the second metacarpal bone. To the best of our knowledge extension of osteoid osteoma across a joint is a new behavior by this tumor that has not been reported in the English literature. We believe that this exceedingly rare behavior is possible in this location because the trapezoid and second metacarpal bone intimately join to each other, with a very small space between the two articular surfaces. Osteoid osteoma should be in the differential diagnosis list of chronic wrist pain, particularly in young males. In treating osteoid osteoma of the carpal bones, the possibility of its extension through the joint to adjacent bone should be considered in order to prevent its recurrence.

Financial support: None
We received written contest of patient to publish the case.
References