

Osteoid Osteoma of Scapula in 24 Year Old Male

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Abstract

Introduction: Osteoid osteoma is a benign bone tumor involving almost any bone but half of the cases involve femur or tibia which accounts for 10% of all benign tumour with male preponderance (2:1). Involvement of Scapula is a rare tumor with only 19 reported cases in the literature.

Case Report: We present a case of osteoid osteoma over lateral border of right scapula in a 24- year male. He had right shoulder pain and increasing at night for 1 year. He had multiple visits to various health care providers, underwent many radiological investigations and was treated in long term with no relief.

Key Massage: The key for diagnosis in this patient was paying attention to the typical nature of pain which was progressing and increasing at night and typically relieved by NSAID's. After the excision of the tumor, the pain completely subsided and a few weeks of physical therapy led to full range of motion in his shoulder.

Keywords: Osteoid osteoma , scapula, benign Tumour

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I. Introduction

Bergstrand in 1930 and Jaffe in 1935 gave accurate description and coined the term Osteoid Osteoma. They are generally 2 cm in size , bone forming lesions and exhibit hypervascular area of rarefaction called nidus centrally and sclerotic bone peripherally . Osteoid Osteoma is a locally aggressive tumour and there is no potential for malignant transformation.¹

Various hypothesis have proposed in genesis of Osteoid osteoma include trauma, inflammation and developmental causes secondary to altered vascularity in the affected area. Proximal femur is the most common site followed by proximal tibia. Other sites are spine (posterior > anterior elements) , bones of hand and foot , and humerus.

Presentation

Early

- Local pain that is typically more frequent and severe at night
- Pain that is relieved by aspirin within 30 minutes (75% of cases)
- Pain that increases with activity and alcohol consumption
- Local swelling and point tenderness

Late

- Bony deformity
- Gait disturbances
- Muscle atrophy
- Leg length discrepancy (longer leg on involved side)
- Scoliosis (concavity same side as lesion)
- Growth Disturbances
- OA

Main feature of this condition is Pain which is progressive, vary in intensity becoming more severe, continuous ,agonizing, referred to adjacent joint and worse at night.

The nidus has been found to contain abundant nerve fibers within its matrix, adjacent to areas rich in arterioles. Prostaglandin synthesis has been shown to occur in the nidus. These reports suggest an important pathophysiologic role for prostaglandins both as mediators of pain and vasodilation , that may stimulate the nerve endings by increasing the blood flow within the tumor.

The typical history of pain should be alarming to the treating physician or surgeon. Bone scan and CT scan should be perform to localize the lesion. Surgical excision of nidus is the treatment of choice.

II. Case Report

24 year old male complains of pain over neck and right shoulder since 1 year .

Pain was insidious onset , gradually progressive with diurnal variation (more during night than day time) ,associated with occasional radiculopathy till arm, not associated with trauma which was relieved by rest and analgesics initially. Clinically he had painful ROM in all directions of shoulder; mainly abduction and external rotations with tenderness around shoulder.

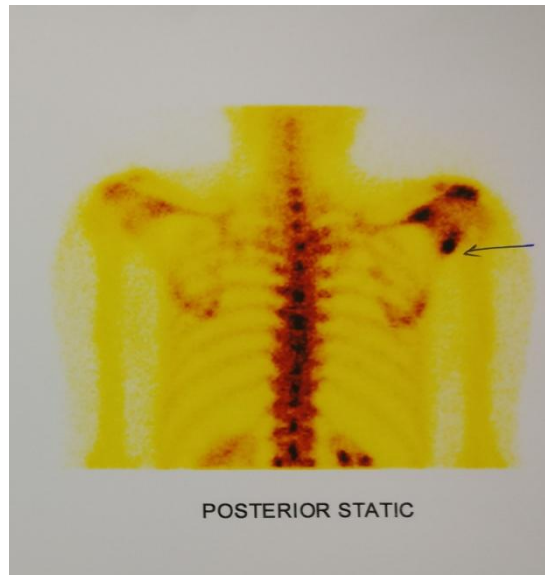
He underwent series of investigations in the form of x rays and MRI of cervical spine , and shoulder. Xray shoulder was within normal limits . He was treated with conservative treatment in the form of medicines and physiotherapy , intraarticular injections and arthroscopic debridement of subacromial space . But the pain continued. With the strong clinical suspicion we ordered 3D CT scan which showed thickening of lateral border of scapula with central nidus suggestive of Osteoid Osteoma

continued

The bone scan revealed focal intense increased uptake at lateral border of scapula favouring Osteoid Osteoma.



3D CT REVEALED THICK LATERAL BORDER OF SCAPULA



INCREASED UPTAKE AT LATERAL BORDER OF SCAPULA

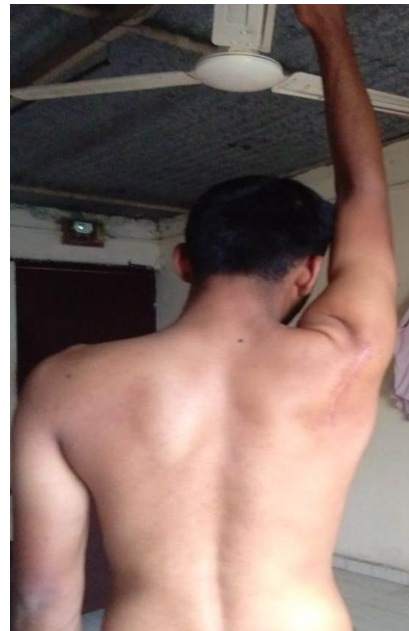
Patient was subjected to surgery under general anaesthesia

We performed this surgery by Judet approach. Infraspinatus was lifted and infraglenoid tubercle was identified . 1 cm x 3 cm bone over lateral border of scapula was removed in toto . Histopathology confirmed it as Osteoid Osteoma. Post operatively patient had pain over suprascapular nerve distribution which was managed by Pregabalin . At 4 weeks of follow up patient was symptom free and with full range of motion of shoulder with back to his daily routine activities .

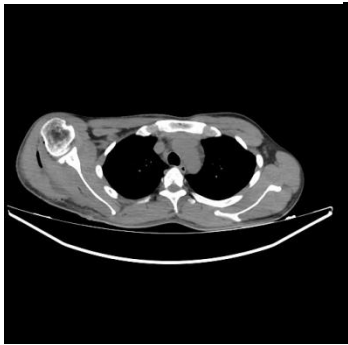
SCAR OF JUDET APPROACH



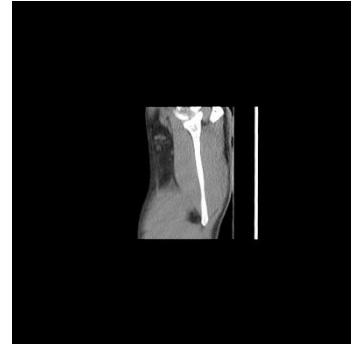
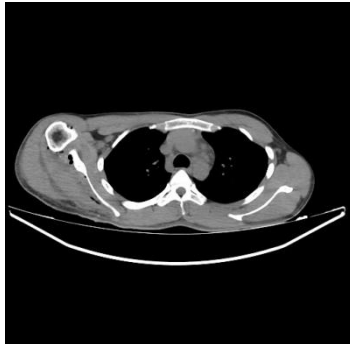
POST OPERATIVE 4 WEEKS



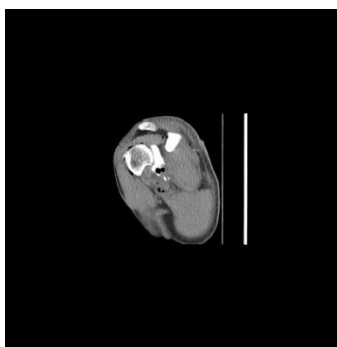
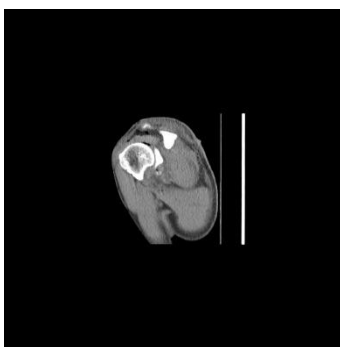
Post op CT –



Operative site



Normal site



III. Discussion

Scapula is a rare site for osteoid osteoma, it is not often included in the differential diagnosis of chronic shoulder pain.

The night pain is often attributed to rotator cuff pathology. However, the age of the patients in these cases would make rotator cuff pathology less likely.

Glanzmann et al reported osteoid osteoma presented by localized stiffness of the anterosuperior capsule which led to the chief complaint of painful restriction of external rotation in the adducted arm position only (7)

Osteoid osteoma typically occurs in adolescence age group, whereas rotator cuff pathology would be unusual in that population. In particular, juxta-articular osteoid osteoma often presents a diagnostic dilemma secondary to referred pain, neurologic deficits, and global extremity weakness.

Lesions in the labrum may be identified by soft tissue radiography but may not be the cause of the patient's symptoms.

In the patient with persistent shoulder pain unresponsive to the selected treatment, additional imaging studies should be considered to eliminate the possibility of a bone lesion.

Benign osseous lesion of the shoulder is uncommon, osteoid osteoma and osteoblastoma occur in the proximal humerus or scapula in 10 to 15% of cases over, the proximal humerus or glenoid.

The enblock excision in uncommon subglenoid region can be problematic, since the surgical exposure is difficult, and shoulder joint function can be affected if the lesion is subchondral. In surgical treatment by Ponali et al, the excision of the lesion and grafting was performed by a deltopectoral approach. (10)

One year after the surgery, the patient remains pain free and has full range of motion with no recurrence of the tumor.

Du Ssaussois L et al reported a new therapeutic modality uses in a patient with an osteoid osteoma of the scapula. (13)

They successfully destroyed the nidus by percutaneous laser photocoagulation under CT guidance.

Clinical improvement was manifested after 72 hours and the patient remained asymptomatic

In Degreef et al case report, osteoid osteoma in the acromion was successfully treated by an acromioclavicular (AC) joint resection. (4)

In our case, the unusual site and common complaint of shoulder pain with mechanical nature caused long delayed diagnosis and treatment.

Although osteoid osteoma is a very rare cause of shoulder pain but no relief on standard treatment of shoulder pain and in prolonged relentless night pain should be alarmed to the treating surgeon or physician . Paying attention to the character and nature of pain is the key guide of diagnosis. In Radio Frequency Ablation a minimum amount of bone is removed during the procedure and the patient can return to normal function almost immediately . Another treatment of osteoid osteoma is surgical excision of the nidus, but anatomic unusual site can produce some technical and rehabilitation difficulties.

IV. Conclusion -

Osteoid osteoma of the scapula is a challenging case to diagnose for several reasons .Because a differential diagnosis is unlikely and far-fetched, these tumors can be misdiagnosed for long time and treated as cervical radicular pain

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