

CASE REPORT

Osteoid Osteoma in acromion of scapula: a case report

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ABSTRACT

Background: Osteoid osteoma is a benign tumor, predominantly affects the younger age group with characteristic nocturnal symptoms, relieved by rest and anti-inflammatory drugs. It can affect any bone; most common site is shaft of long bones of lower limb (90%). It is quite uncommon to find osteoid osteoma in acromion of scapula.

Case description: We describe a case of 46 year old male, presented with pain in left shoulder that simulated left shoulder joint arthritis. The diagnosis of osteoid osteoma involving acromion of scapula was made on bone scan. Tc99m MDP SPECT-CT images showed a distinct focus of increased uptake in the acromion of left scapula with characteristic central lucent nidus on CT images.

Conclusion: Osteoid osteoma in acromion is very rare. When osteoid osteoma is suspected in middle age group, bone scan and correlative SPECT/CT is important tool for diagnosis.

Key words: Osteoid Osteoma, acromion, bone scan, SPECT-CT, Case report

Background

Osteoid osteoma is a benign bone tumor and constitutes 11% of all benign bone tumors and 5% of all primary bone tumors [1]. It usually affects the young man, in second or third decade of life. However it can affect a wide range of individuals aged 8 months to 70 years. The male to female ratio is 3:1 [2]. Osteoid osteoma can occur in any bone. It predominantly involves the cortex of shaft of long bones of lower limbs (90%) [3]. It rarely affects the scapula and only few cases have been reported in literature. Mosheiff et al, reviewed the literature of 1236 cases of osteoid osteoma and reported the involvement of 12 scapula [4].

Case description

A 46 years old male, presented with pain in left shoulder for 1 month. The pain increased at night, worsened

with physical activities and improved with rest and analgesics. He had no history of significant trauma or previous joint disease.

On physical examination, his shoulder had no swelling and deformity, however there was mild limitation in the movement of affected joint.

Plain radiograph showed an ambiguous oval shaped lytic lesion with ill-defined margins and no periosteal reaction or marginal sclerosis. Differential diagnosis include, primary bony tumor, osteoid osteoma, osteoblastoma, Brodie's abscess and geode. Bone scan done with Tc99m MDP showed osteoblastic response in the lesion seen on X-ray. Correlative SPECT – CT images showed a lesion in acromion with central lucent nidus measuring 13.5 × 7.6 mm, favoring the diagnosis of osteoid osteoma.

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Figure 1: Radiograph showing lytic lesion in acromion of scapula.



Figure 2: No abnormal focus of increased uptake in blood flow & pool images in both shoulder joints/scapular region. However delayed phase showed a focus of relatively increased uptake in the region of acromion of left scapula.

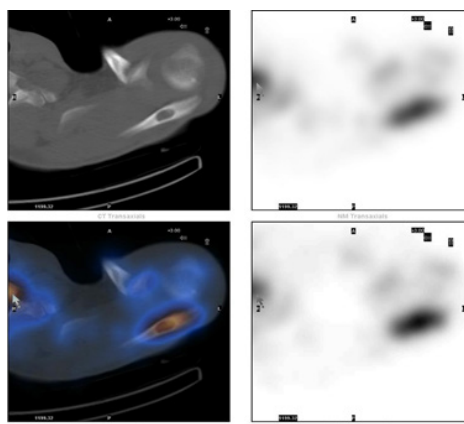


Figure 3: SPECT/CT of shoulder: shows a distinct focus of increased tracer uptake in the region of acromion of left scapula which on CT images appears as radiolucent nidus with surrounding sclerosis measuring 13.5mm x 7.6 mm.

Discussion

Osteoid osteoma is a benign tumor which can occur anywhere in the skeleton. However the acromion of scapula is a rare site of osteoid osteoma location and therefore often is neglected, when listing differential diagnosis of shoulder pain. Degreef et al. first in 2005 described the occurrence of an osteoid osteoma in the acromion in a female patient aged 56 years [5].

A characteristic history of night pain relieved by aspirin is seen in many patients with osteoid osteoma, however it can attribute to rotator cuff pathology in case of shoulder pain [6]. An atypical history and lesions in unusual locations can confuse the diagnosis with inflammatory arthritis, osteomyelitis, especially Brodie abscess, eosinophilic granulomas and other benign cysts. In the present case, patient's history is typical for osteoid osteoma, however the site is unusual for osteoid osteoma.

Plain X-rays are not usually sufficient for diagnosis. Tc99m MDP bone scan is quite sensitive tool for localization of any osteoblastic lesion. The sensitivity of bone scan for detection of osteoid osteoma is virtually 100% [7]. However the detection is often difficult with planner images and correlative SPECT – CT imaging may play an important role in the diagnosis, especially in unusual locations.

Treatment depends upon the symptoms of the patient. If the patient's symptoms are adequately controlled, anti-inflammatory medications can be used as a final treatment, which may lead to final healing (autolysis) of the lesion in three to five years [8]. Other treatment options involve percutaneous ablation by radiofrequency and surgical procedures involving complete removal of the nidus by curettage, en bloc resection or by arthroscopic route [9].

In osteoid osteoma pain aggravates at night, the reason is still unknown. Spontaneous regression has been reported in some cases of osteoid osteoma. However; the reason why there is spontaneous regression is so far unclear. Further research is required to completely understand the pathophysiology of such lesions.

Conclusion

Osteoid osteoma in acromion is very rare. When osteoid osteoma is suspected in middle age group, bone scan and correlative SPECT/CT is important tool for diagnosis.

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None

List of Abbreviations

CT Computerized Tomography
MDP Methylene diphosphonate
SPECT Single photon emission tomography

Conflict of Interests

None

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Consent for publication

Informed consent was obtained from the patient to publish this case.

Ethical approval

Ethical approval is not required at our institution for publishing a case report in a medical journal.

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Authors' contribution

All authors contributed to the drafting, revising and final editing of the manuscript.

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Summary of the case

Patient (gender, age)	1	46 year old male
Final Diagnosis	2	Osteoid osteoma
Symptoms	3	Pain in shoulder at night
Medications (Generic)	4	Analgesics
Clinical Procedure	5	Bone Scan, SPECT/CT
Specialty	6	Nuclear Medicine
Objective	7	Utilization of nuclear medicine techniques for diagnosis of rare bony pathologies
Background	8	Osteoid osteoma is a benign tumour that is uncommon in acromion of scapula
Case Report	9	Osteoid osteoma in acromion of scapula
Conclusions	10	When osteoid osteoma is suspected in middle age group, bone scan and SPECT/CT are important tool for diagnosis.
MeSH Keywords	11	Osteoid osteoma, acromion, bone scan, SPECT/CT, case report.