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## Osteoid Osteoma of acetabulum, a rare presentation

Irfan Ashraf,<sup>1</sup> Sidra Kanwal,<sup>2</sup> Pervaiz Hashmi<sup>3</sup>

### Abstract

The case of a relatively frequent benign osteoblastic tumour, osteoid osteoma at an atypical site is presented. It was in a 20 year old man who attended the outpatient department of Aga Khan University Hospital, Karachi with pain in left groin since last 6 months which often occurred at night and was relieved by taking NSAIDs. X-ray failed to reveal the cause. CT scan showed central radiolucent nidus with surrounding sclerosis suggestive of osteoid osteoma in the left acetabulum. Acetabulum is a rare site for osteoid osteoma, the usual sites are diaphysis of long bones. Hence, the diagnosis is often difficult and delayed in such cases. CT scan, Bone scan and MRI, helped in diagnosing the condition. Resection of the lesion by open technique under fluoroscopic control was performed and histopathology confirmed the diagnosis.

**Keywords:** Osteoid osteoma, Osteoblastic tumour, Acetabulum.

### Introduction

Of the total benign bone tumours, 12 % are classified as Osteoid osteomas, which was first described by Henry L. Jaffe in the year 1935.<sup>1</sup> Osteoid osteoma is basically a benign osteoblastic tumour which is predominantly found in males aging between 10 years and 25 years. Osteoid Osteoma consists of woven bone and osteoid, which is surrounded by halo of reactive sclerotic bone, having less than 1.5 cm of average size of nidus. In 85% of the total number of cases, plain radiographs demonstrate the nidus.<sup>2</sup> The size of the nidus is quite small and furthermore, is commonly located in an area where a plain radiograph has a high probability of missing the lesion. It has been found that more than 50% of the total number of lesions occur in the diaphysis of long bones located in the lower extremity and only 1.2-2% of Osteoid osteomas occur in the pelvis region.<sup>3</sup> In this case report, a rather rare case of osteoid osteoma is reported which presented as a unilateral left sided painful groin. Diagnosis was delayed due to absence of any lesion on X-ray, which was subsequently revealed by CT scan. The acetabulum is an

extremely rare site of Osteoid Osteoma thus delaying diagnosis.

### Case Presentation

A 20 year old male from Afghanistan presented to our outpatient department in December 2011 with complaints of progressive pain in left groin for last 6 months. Initially he was treated as ureteric colic, due to site of pain. Pain occurred more at night, dull aching in nature and was relieved by NSAIDs, no systemic symptoms were present. The patient is a non-smoker with no known allergies, no significant family history was noted.

On clinical examination, he had an antalgic gait. Hip movements were painful with limited internal rotation and flexion. Neurovascular examination was intact in both legs with no signs of neuropathy. Rest of systemic examination was normal.

Inflammatory markers were within the normal range. X-rays of pelvis were normal (Figure-1a). Bone scan showed an increase uptake in left acetabulum (Figure-1b) MRI showed hip effusion and circular high intensity signal in acetabulum (Figure-2a,2b).CT scan of the pelvis showed typical features of osteoid osteoma that is central

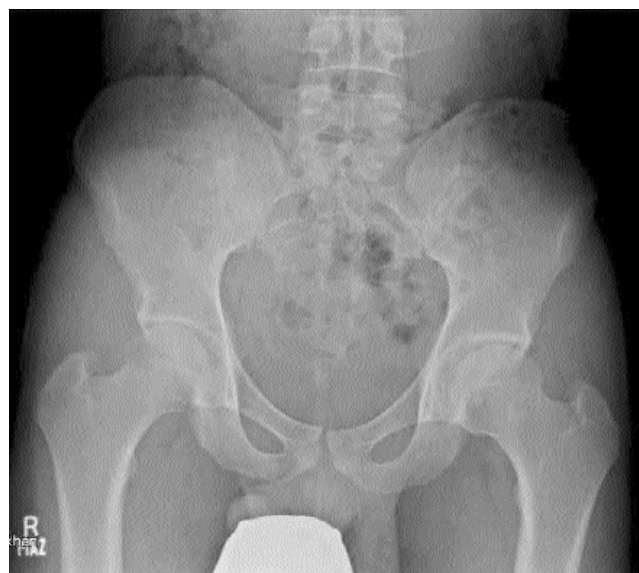
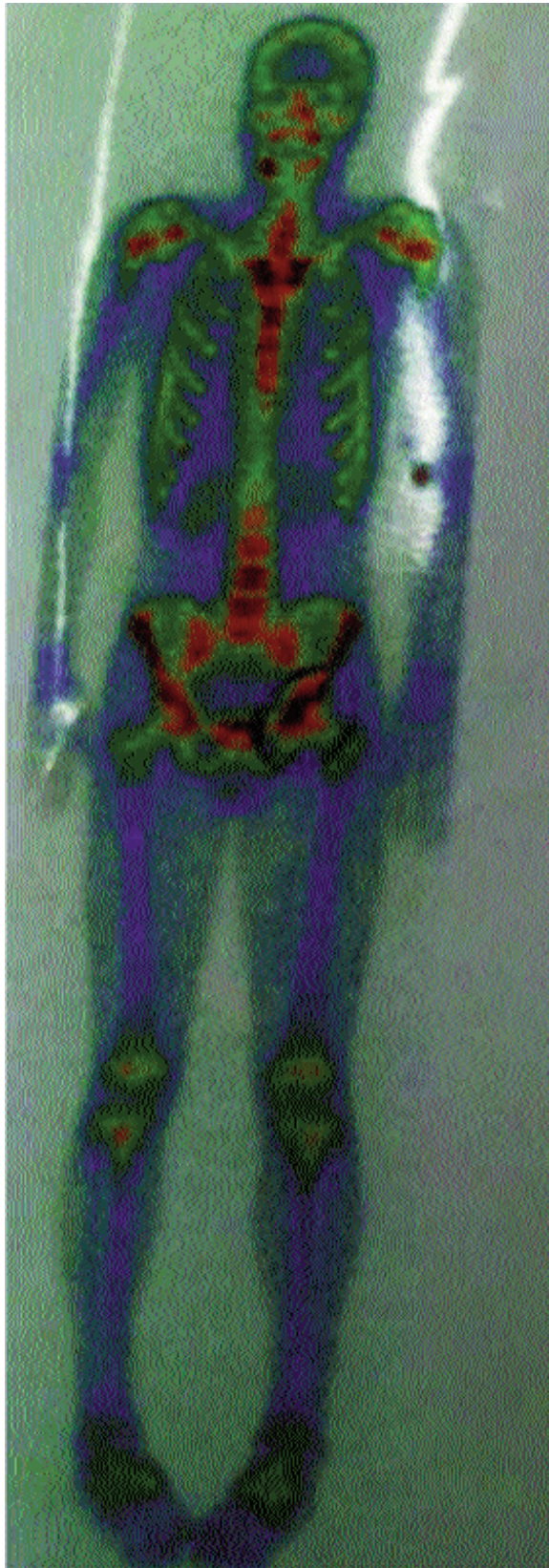


Figure-1a: X-ray pelvis.

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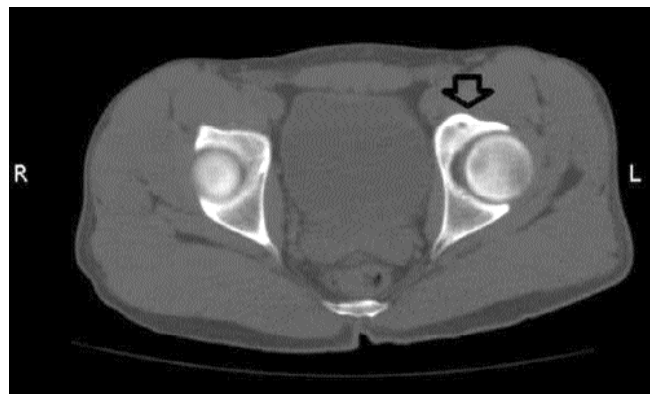
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**Figure-1b:** Bone scan.



**Figure-2a:** MRI showed hip effusion.



**Figure-2b:** CT scan of the pelvis: showing typical features of osteoid osteoma that is central radiolucent nidus with surrounding sclerosis in the left acetabulum.

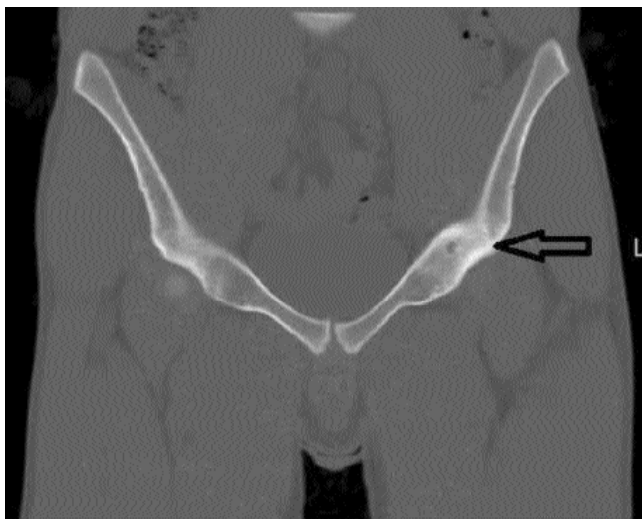
radiolucent nidus with surrounding sclerosis in the left acetabulum (Figure-3a, 3b).

The differential diagnosis include chronic inflammatory arthritis like septic or tuberculous arthritis, avascular necrosis of femoral head, osteoblastoma, Ewing sarcoma, osteochondritis, eosinophilic granuloma, and bony metastasis.

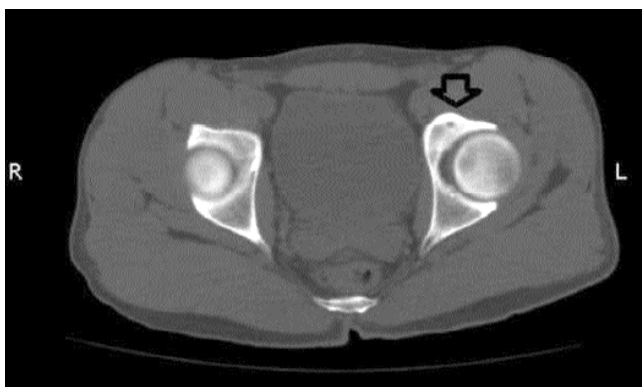
There are various options for the treatment of osteoid osteoma.

- 1- Conservative treatment with NSAIDs
- 2- Radio frequency ablation.
- 3- Surgical removal
- 4- CT- guided removal of osteoid osteoma.

Expertise for radio frequency ablation and CT guided removal are not available at our institute. We discussed treatment options with the patient who opted for surgical removal of Osteiod Osteoma. After taking informed



**Figure-3a:** CT scan of pelvis.



**Figure-3b:** CT scan of pelvis: showing typical features of osteoid osteoma that is central radiolucent nidus with surrounding sclerosis in the left acetabulum.

consent, the Osteoid Osteoma was removed through anterior ilio-inguinal approach under fluoroscopic control.

The Osteoid Osteoma was removed through anterior ilio-inguinal approach under fluoroscopic control. Histopathology was found to be consistent with osteoid osteoma. By 12 weeks, the patient returned to his normal activities of life with complete relief of his movement related pain.

In the last two decades, very few cases of Osteoid Osteoma of the acetabulum have been reported. To the best of the author's knowledge no case has been reported from Pakistan.

Intra- and juxta-articular Osteoid Osteoma are generally always characterized by the signs of synovitis.<sup>3,4</sup> When it

affects the hip, the most general symptoms include pain, painful restriction of movement, antalgic gait, and muscular atrophy of thigh and buttock.<sup>5-7</sup> Besides that, restricted range of motion along with contractures may also occur. The classical nocturnal pain which is found in over 80% of extra-articular Osteoid Osteoma is absent. Furthermore when the Osteoid Osteoma is intra-articular, the pain is also less responsive to salicylates.

Intra-articular tumours in the bony pelvis prove quite difficult to diagnose only with the help of plain radiographs, as they occur not only due to the absent or sometimes minimal surrounding osteosclerosis, can also happen because of the bone structure's anatomic complexity.<sup>8</sup> Radiograph features are variable, and include joint space widening, a radiolucent nidus, sclerosis and joint effusion. One other technique which has been proved useful in detecting Osteoid Osteoma is the technetium bone scanning.<sup>9-11</sup> CT is by far the best technique in the demonstration of the exact anatomic location and the extent of the target lesion,<sup>11,12</sup> however in the presence of secondary synovitis and marrow oedema, erroneous diagnoses may be made.<sup>12,13</sup>

Many reports of medical management (NSAIDs) of unconfirmed Osteoid Osteoma may also be found in the present literature, however this treatment is quite less invasive and may also be proved more cost-effective than surgical treatment, however drug sensitivity, side effects, and prolonged periods of treatment are some of the factors which have to be considered. Surgical excision of the nidus is the most recommended curative treatment.

## Conclusion

Osteoid osteoma of the acetabulum is a rare but important differential of groin pain. The physician should be aware of the potentially confusing clinical and radiographic findings associated with it, as this painful lesion significantly affects the quality of life. This case shows that CT scan is a better modality to diagnose the Osteoid osteoma of the acetabulum and surgical excision provides good results, if expertise for radiological removal is not available.

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