

Submission of abstract for Scientific Program of 2015 Meeting of the International Society of Limb Salvage (ISOLS)

Title: Osteoid osteoma of acetabulum \_How to avoid misdiagnosis

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Level of Evidence: IV

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#### Abstract:

##### Background:

Osteoid osteoma is a relatively frequent benign bone tumor, with typical characteristic of nidus in the imaging especially on the thin CT. The typical symptom is night pain with relieve after NSAIDS. The diameter of nidus is usually less than 1.5 cm, which is relatively easily recognized in the long bone. However, if the tumor is located in the acetabulum, it is often be difficult to diagnose. osteoid osteoma of acetabulum is extremely rare. To the literature, there are only several case reports to this condition. Treatment of this disease varies because of small case numbers.

##### Questions/Purposes:

The purposes of this study were: (1) To analyze the characteristic of this tumor; (2)To analyze how to avoid the misdiagnosis of this tumor; (3) To evaluate treatment and the oncological result of this tumor.

##### Patients and Methods:

A retrospective study was obtained to evaluate the characteristics of osteoid osteoma of acetabulum. Data was collected from the JST orthopaedic oncology database. Six cases were enrolled from 2004 May to 2013 May. The median age was 17 years old (range 10-26). There were 5 male and 1 female. Night pain was the dominate symptom in all patients. The duration from onset of symptoms to diagnosis was 6 to 24 months. Five patients were diagnosed as synovitis of hip elsewhere. One patient was diagnosed as the gout and synovitis of hip and underwent three synovectomy procedures in the 24 months prior to diagnosis. Five patients had normal range of motion in hip although the pain bothered them discontinuously. One patient who underwent prior synovectomy had limited range of motion in all directions.

##### Results:

These patients were diagnosed as osteoid osteoma when they were referred to our hospital. When reviewing the imaging of them from elsewhere, we could find the extensive hip joint edema on MRI, which was the reason why they were diagnosed as synovitis. The patient received three times synovectomy had obvious osteoarthritis of hip. Through the detailed history taking and thin-slice CT, we could make the diagnosis correctly. All the cases received surgery in our hospital. Four of them were curetted with or without auto graft. One was treated with percutaneous radio frequency under the navigation. One was treated with tumor curettage and total hip replacement because of the severe osteoarthritis. Surgery successfully eradicated night pain in all patients. All patients were without evidence of disease at the last follow-up (median 48months, range 24 to 80 months).

#### Conclusions:

Osteoid osteoma rarely involves the acetabulum. Misdiagnosis and delay in diagnosis is common. There are only several case reports before. CT scan is more helpful than MRI to find the characteristic nidus of osteoid osteoma. Surgical treatment or radiofrequency ablation are effective treatments for osteoid osteoma in this location.