

# Photo Quiz: Bone Lesion to the Neck of the Talus

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## ANSWER: Atypical Osteoid Osteoma

Osteoid Osteoma is a benign skeletal neoplasm of unknown origin. Focal bone pain is the hallmark of this tumor.<sup>1</sup> The tumor consists of ovoid or spherical nidus of osteoid-rich tissue and interconnected bone trabeculae superimposed against highly vascularized connective tissue containing large dilated vascular channels. The neoplasms are usually small, ranging from 0.5 cm to 2 cm in diameter.<sup>1</sup>

The common presentation of an osteoid osteoma is painful lesion in the diaphysis of the long bone, usually the femur or tibia, with a history of night pain, relieved by aspirin. Typically, on radiograph, it presents as a diaphyseal lesion or nidus less than 1 cm in size surrounded by extensive sclerosis. It has been reported that the lesion may become asymptomatic after a mean of 3 years following non-operative treatment. However, the majority of these lesions require surgical excision of the nidus, radioablation or ethanol injection as a sclerosing agent directly into the nidus or lesion.

Recently, percutaneous radiofrequency coagulation is the most common modality to treat osteoid osteoma without open surgery. This is usually performed by CT guidance under general or spinal anesthesia. After localization of the nidus with 1- to 3-mm CT sections, an osseous access is established with either a 2-mm coaxial drill system or an 11-gauge Jamshidi needle. RF ablation is performed at 90°C for 4-5 minutes by using a rigid RF electrode with a 1-mm diameter.<sup>1</sup> The procedure is successful when the electrode is heated to the desired temperature within the nidus. In one series, clinical success was achieved in 96% of patients. All recurrences were treated with a second procedure, with a secondary success rate of 100%.<sup>2</sup>

Atypical osteoid osteoma is one where clinical and radiological findings differ. This is usually seen with osteoid osteoma of the small bones or any juxta- or intra-articular osteoid osteomas. The non-specific features include synovitis, stiffness, joint contracture or scoliosis if the tumor is located in the spine. Radiographically, sclerosis is not apparent on plain films. Because of variable clinical presentation and paucity of radiological findings, the diagnosis is very often delayed. This delay has been reported to be anywhere between 6 to 24 months. It has been suggested that a high index of suspicion is necessary for early diagnosis and prompt treatment. Bone-scan, CT or MRI is helpful in diagnosis of the tumor.

The other choices in this photo quiz included osteochondritis dessicans (OCD lesion), osteoblastoma, Brodie's abscess and Ewing's tumor.

In the talus, osteochondritis dessicans is primarily a lesion isolated to the talar dome. It is classified as a type of osteochondral fracture.

Osteoblastoma is a rare primary neoplasm of bone most closely related to osteoid osteoma.<sup>3</sup> The clinical difference is its ability to grow larger than 2.0 cm in diameter. Osteoblastoma is a larger and more aggressive, benign neoplasm of bone.

Brodie's abscess is a form of subacute or chronic osteomyelitis.<sup>4</sup> Although MRI findings may have been similar to osteoid osteoma, the histological difference in a Brodie's abscess would have included bone degeneration, fibrosis, subacute inflammation with a mixture of polymorphs and plasma cells in an edematous background.

Ewing's tumor is a class of malignant tumors of bone and soft tissue. In bone, Ewing's sarcoma is a highly malignant primary bone tumor derived from red bone marrow.<sup>5</sup> Histologic features are closely related to reticulum cell sarcoma. The tumors are most commonly located in the metaphyseal or diaphyseal region of long bones.

In summary, early diagnosis and treatment of osteoid osteoma is recommended to avoid unnecessary suffering and late complications such as joint contracture.

## References

1. Khan, Ali Nawaz. Osteoid Osteoma eMedicine [[online](#)], 2008.
2. Sung KS, Seo JG, Shim JS, Lee YS. Computed-tomography-guided percutaneous radiofrequency thermoablation for the treatment of osteoid osteoma-2 to 5 years follow-up. *Int Orthop*. Nov 22 2007, [[Medline](#)].
3. Ortmann, Fred. Osteoblastoma eMedicine [[online](#)], 2008.
4. Khalid, K. el al., Subacute Osteomyelitis (Brodie Abscess), eMedicine [[online](#)], 2008.
5. Strauss, L. Ewing Sarcoma, eMedicine [[online](#)], 2008.

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