

An Unexpected Location of Enostosis, a Pediatric "Never Mind" Bone Lesion

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ABSTRACT

Enostoses, also known as bone islands, are common benign sclerotic bone lesion that usually represent incidental findings. They constitute a small focus of compact bone within cancellous bone. Enostoses can be seen on radiographs, CT, and MRI, and are considered one of the skeletal do not touch lesions.

Keywords: enostosis, bone islands, bone lesions, paediatric radiology.

Clinical and paraclinical presentation

A 12-year-old female patient presented in radiology department for a left radiocarpal pain after FOOSH injury (fallen onto an outstretched hand). A comparative x-ray of both hands was obtained.

Positive diagnosis

The x-ray demonstrated a small, rounded, well-defined sclerotic bone lesion at her right (intact) capitate bone, as an incidental finding (Figures 1 and 2).

Plain radiography reveals a homogeneously dense sclerotic focus in the cancellous bone, with distinctive radiating bony streaks ("thorny radiation") that blend with the trabeculae of the host bone, creating a feathered or brush-like border (Figure 3). On CT scan, a bone island appears as a low-attenuation focus, and on MRI sequences it shows low signal intensity like cortical bone (1-3).

In the vast majority of cases, bone islands have a pathognomonic appearance.

Differential diagnosis

Although lesions greater than 1 cm are commonly found, larger lesions may sometimes pose a diagnostic dilemma, particularly in case of known malignancy or atypical location. Imaging differential considerations include osteoblastic metastasis, osteoma, osteoid osteoma and low-grade osteosarcoma (5, 6).

Treatment

No particular treatment is necessary for this type of lesion. Seldom, in symptomatic patients with lesions larger than 1 cm, analgesic therapy is considered as an option, although there is not enough level of evidence proving the effectiveness of this approach.

Comments

Bone islands may occur anywhere in the skeleton, although there is some predilection for pelvis, long bones, spine and ribs. In our case, the lesion oc-

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FIGURE 1. Lateral view of both hands, indicates the lesion at the right capitate bone



FIGURE 3. A focused view in the lesion (AP wrist x-ray) demonstrates the “thorny radiation appearance” of enostosis, within the trabeculae bone tissue of capitate bone



FIGURE 2. AP view of the comparative x-ray, offers better radiological characteristics of the lesion

located in the capitate bone, a non-typical location.

The etiology of enostoses is not completely known. They are most likely congenital or developmental in origin and are thought to represent either hamartomatous lesions or failure of osteoclastic activity during bone remodeling while

other consider enostosis a tumor-like condition (2, 4). Considering the etiopathology of the lesion, there is no need for imagery or physical follow-up. □

CONCLUSIONS

Enostoses or bone islands are common benign sclerotic bone lesions which are usually found as incidental findings. They constitute a small focus of compact bone within cancellous bone. Enostoses can be identified on radiographs, computed tomography and magnetic resonance imaging studies and are considered one of the skeletal “don’t touch” lesions. □

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