CASE REPORT

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A Bone or a Fracture: Subtibiale

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ABSTRACT A 60- year-old female patient admitted the emergency department (ED) because of falling from high. She was suffering right ankle pain. The patient's physical examination findings were tenderness on right ankle. Right ankle and tibia-fibula x-ray graph were performed. X-ray graph revealed that a small bone which is one of the sesamoid bone called os subtibiale, were localized behind the fibulae. If it is not evaluated carefully, this sesamoid bone can be misdiagnosed as fracture easily. Recognition of sesamoid bones and their location are important to protect patients from unnecessary and improper interventions.

Keywords: Os subtibiale; sesamoid bone; tibia fracture

Many sesamoid bones can be existed around ankle and foot bones. These ossicles are variations of the skeleton. The os subtibiale, one of the sesamoid bones, is so rare and it's incidence is between 0.2-1.2%.[1] It occurs because of fusion defect of medial malleolus ossification centers. It is detected mostly coincidentally by X-ray. These sesamoid bones may cause misdiagnosis due to various pitfalls while evaluating X-ray images in trauma patients. In this case report, we aimed to increase awareness of importance sesamoid bones in trauma patients.

CASE REPORT

A 60-year-old female patient admitted the emergency department (ED) because of falling from high. She was suffering right ankle pain. On physical examinations, ecchymosis was observed bilaterally on medial, lateral, and dorsal side of ankle. The dorsal flexion/extension and internal/external rotation movement of the ankle was limited due to the pain. Right ankle and tibia-fibula X-ray graph were performed. X-ray graphics were interpreted like a fissure line on the distal side of the os subfibulare and a fracture of lateral malleolus by ED doctors (Figure 1, Figure 2). The patient was consulted to orthopedic and trauma surgeon. Orthopedic and trauma surgeon described the bone which was behind the fibula and had a regular boundary as a sesamoid bone called os subtibiale. Serial physical examinations revealed that the pain was lessen and getting localized on fibula sides. Patient's ankle was immobilized by a splint. The patient was discharged with prescription of an anti-inflammatory drug and advised cold compression-elevation therapy. The patient's consent was obtained to present this case report.

DISCUSSION

Sesamoid bones are small sized ossicles which contribute to weight-bearing. Clinical importance of sesamoid bones are related to their size. Small

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FIGURE 1: Antero-posterior X-ray graphy: Os subtibiale on the lateral malleol of tibiale with black arrow and circle. Fracture line on fibulare distal side with thunderbolt.

FIGURE 2: Lateral X-ray graphy: Normal.

sesamoid bones' clinical importance are negligible. It is important to remark that sesamoids rarely have smaller parts i.e., sesamoids can be formed of more than two separate pieces with the incidence of 11.1 percent.[2] To purpose diagnosing sesamoid bones and determining the differential diagnosis in fractures, some methods can be helpful. The most effective X-ray imaging method that can be used in the evaluation of fibular sesamoid bones are lateral oblique radiographs.[3] Axial radiographs will be helpful in evaluating the joint space and determining osteochondritis-associated sclerosis, if present. Sesamoid fractures may not be detected on initial radiographs because, transverse fractures occur generally in these bones.[4] To determine os subtibiale or medial malleolus fracture is often difficult. It should be kept in mind that medial malleolar fractures are a sharp, radiolucent, noncorticated fracture line, and usually fit well into the adjacent medial malleolus.[5] Extremity tomography and bone scintigraphy are other methods used in diagnosis. Some studies reveal that computed tomography is more useful than bone scintigraphy to determine sesamoid bones.[6] If osteonecrosis is suspected in the presence of sesamoid bone, magnetic resonance imaging is useful for early diagnosis.[7] As a conclusions, to determine sesamoids and accessory bones on X-ray images is always confusing. To avoid this pitfall, knowledge of location of the usual sesamoids and accessory bones will be supportive. If physicians learn how to interpret X-ray images better, management of treatment will be easier and better.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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