

## Pediatric Posttraumatic Cystic Bone Lesion

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Pediatric posttraumatic cystic bone lesion, also known as fracture cyst, transient fatty cortical defect, transient post-fracture cyst is an uncommon complication of fractures in children. Approximately 30 cases were reported in the literature. Typically, it occurs in 2-4 months following minor traumatic fractures. It usually occurs at distal radius following a greenstick, buckle or torus fracture.<sup>1</sup> Intramedullary fat leakage through the damaged bone cortex and its capture in subperiosteal area has been proposed in etiology. On radiographs, it is seen as a well-circumscribed, non-expansile, subcentimeter, radiolucent lesion that is located in cortex, close to the former fracture site. Computerized tomography (CT) shows well-defined, intracortical, fatty density and MRI may show signal loss on fat suppressed sequences.<sup>2</sup> It may be seen in multiple locations. These lesions are asymptomatic and do not cause fever or pain. Differential diagnosis may contain unicameral bone cyst, non-ossifying fibroma, eosinophilic granuloma, osteomyelitis. No treatment is required, as they resolve spontaneously in 1 to 3 years.<sup>2,3</sup>

A 4-year-old girl presented to emergency department with left wrist pain after trauma. Radiographs demonstrated a torus fracture of the distal radius (**Figure 1**). At the third month following the trauma, a control radiograph is obtained. In the

radiograph, a radiolucent lesion close to the former torus fracture site is noticed (**Figure 2**). Then, CT is performed for further examination (**Figure 3**). CT demonstrated cortical, well-circumscribed non-expansile subcentimeter lesion.



**Figure 1:** Radiographs of the left wrist at the time of injury. A torus fracture of the distal radius (arrows) is seen.



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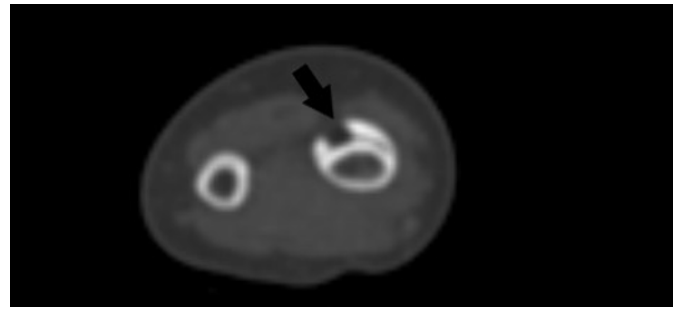
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**Figure 2.** Control radiograph, 3 months after trauma. A well-circumscribed radiolucent lesion in the cortex of distal radius at the former fracture site.

The patient was seen two and a half months later. Radiography showed fading of the lesion. No further follow-up is needed. It is essential to recognize this lesion to prevent unnecessary further diagnostic examinations or even invasive diagnostic procedures.

**Author Contributions:** All of the authors declare that they have all participated in the design, execution, and analysis of the paper, and that they have approved the final version.



**Figure 3:** CT appearance of the posttraumatic cystic bone lesion. A well-circumscribed cortical lesion with fatty density (arrow) is seen.

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