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A 19-year-old man was seen at the orthopedic outpatient clinic for painful right big toe, 8 days after a motor vehicle accident (MVA). The pain and swelling of the right big toe has not improved since the MVA causing the patient to seek further treatment. Clinical assessment showed swollen right big toe which was tender to touch. There was no significant deformity noted. Review of plain radiograph of the right foot is diagnostic.

**What is diagnosis?**

**Answer:** refer to page 42

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**(Refer to page 28)**

**ANSWER : Neglected incarcerated sesamoid of interphalangeal joint (IPJ) of big toe**

The sesamoid bone or hallucal sesamoid of the interphalangeal joint (IPJ) of big toe is considered to be anatomical rarity and its presence may be overlooked due to its clinical insignificance. Depending on studies, the presence of a single hallucal interphalangeal sesamoid varies from 4.3% to 7.8% in adults<sup>1,3</sup>. The rarity of the hallucal sesamoid and its clinical insignificance may contribute to initial misdiagnosis in patients with incarcerated sesamoid within the IPJ following the IPJ dislocation.

Closed manual reduction should be attempted first although outcomes may not be promising in majority of cases<sup>2-4</sup>. The presence of interphalangeal sesamoid complicates the success of full reduction after an IPJ dislocation.

In general, the IPJ of big toe is a stable saddle joint. It is generally stabilized by the collateral ligaments, surrounding tendons

& plantar accessory ligaments, thus dislocation of IPJ of a big toe is rare. Irreducible IPJ following dislocation is even rarer and is usually attributed to anatomical abnormality such as incarcerated hallucal sesamoid<sup>2,3</sup>.

There are 2 types of IPJ dislocation of big toe. In Miki type I, the volar plate is displaced into the IPJ causing the IPJ to widen and subluxed together with the sesamoid bone if it is present. The rebound flexion and present of intact collateral ligaments trapped the sesamoid or volar plate in situ. Clinically, other than pain and slightly elongated big toe, there is little or minimal deformity noted. In Miki type II, the volar plate is completely displaced posteriorly causing the distal phalanx to hyperextend and dislocate dorsally<sup>4</sup>.

CT scan is more sensitive for diagnosing the incarcerated hallucal sesamoid of the IPJ of big toe, however a proper plain X-ray with true AP and lateral view is usually sufficient to come up with the diagnosis. A proper post-reduction radiograph assessment is crucial because occasionally irreducible IPJ with incarcerated sesamoid may be missed by untrained personnel.

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