

## FRACTURE OF LATERAL SESAMOID BONE OF THE GREAT TOE: A DIAGNOSTIC DILEMMA

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**Abstract** :Fracture of the lateral sesamoid bone of the great toe is rare, very few cases have been reported in the world literature, and none has been reported from this subcontinent. Recently, two cases of fractured lateral sesamoid bones of the great toe were treated initially as gouty arthritis, elsewhere. CT scan confirmed the diagnosis and should be mandatory. Conservative management with below knee plaster produced excellent result.

### INTRODUCTION

In each half of the flexor hallucis brevis tendon there are two sesamoid bones. Sesamoid bones are like seeds, after which they are named. Despite their close association with articulations, the precise function of sesamoid bones are still uncertain. It has been opined that they may modify pressure, diminish friction, and sometimes later the direction of the muscle pull. Fractures of sesamoid bones of the great toe are rare, and not many cases have been reported in the world literature, and no cases have been reported from this sub-continent.

Fractures of the sesamoid bones can result from direct trauma or from repetitive stress. Of the two sesamoid bones of the great toe, the medial sesamoid is more prone to fracture than the lateral. As fractures of these sesamoid bones of great toe are uncommon, hence these cases may cause diagnostic dilemma. Recently two cases of fractured lateral sesamoid bones of great toe were treated by med both of them were initially managed as gouty arthritis.

### CASE REPORTS

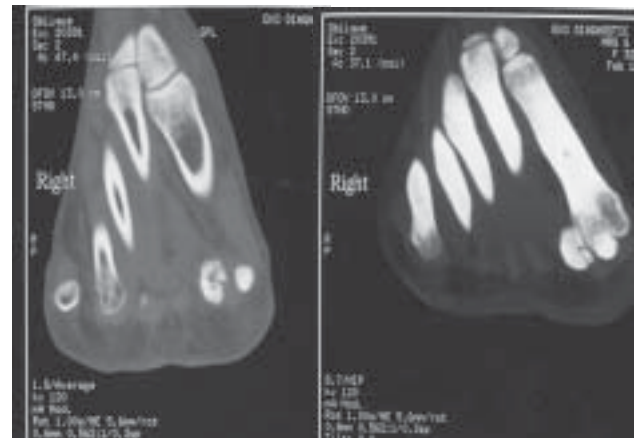
**Case I** A young female aged 23 years, slipped in the bathroom and injured her right great toe. After two days, when pain did not subside with analgesics, she consulted an orthopaedic surgeon, who promptly sent her for radiological investigation.

Routine X-ray showed no bony injuries, as the swelling was around the first metatarso – phalangeal joint, and the x-ray showed no bony injury, the history of trauma was taken as a red herring, and she was treated as a case of gouty arthritis, although her serum uric acid level was normal. However, even after taking the medicine for one week she did not experience any relief. On examine she had a painful, tender swelling around the first metatarso – phalangeal joint of right great toe. The maximum tenderness was on the planter aspect of the head of the first metatarsal of the right great toe. As the x-ray report was negative, a C.T. scan was done. C.T. scan clearly showed a fracture of the lateral sesamoid bone of the right great toe (*Photo 1*) CT scan showed fracture of the lateral sesamoid bone of right side. She was treated with a Short-leg walking plaster for six weeks, and she made an uneventful recovery.

**Case-II** A young male, aged 28 years, a long distance runner. After running a mini marathon he complained of a painful tender swelling, at base of his right great toe. Initial X-rays showed no bony injuries. So he was treated as a case of gouty arthritis, although his serum uric acid level was normal. After one week of medication, he did not have any relief, so he came to my clinic.

On examination it was noticed that his maximum tenderness was at

the planter aspect of the head of the first metatarsal of the right foot. A C.T. scan was done, which showed a stress fracture of the lateral sesamoid bone of the right great toe. He was treated conservatively with below knee walking plaster for six weeks. He made an excellent recovery (*Photo 2*). CT scan showed stress fracture of the lateral sesamoid bone of right side.



*Photo1*

*Photo2*

### DISCUSSION

Fractures of the sesamoid bones of the great toe are rare, and very few cases have been reported in the world literature and no cases have been reported from this sub continent.

Fracture of the lateral sesamoid bone, of the great toe are extremely rare and ordinary x-rays may sometimes fail to reveal them, these fractures may be missed and can pose a diagnostic peril.

Two cases of fractures of the lateral sesamoid bone, reported in this article, were initially treated as gouty arthritis. Excessive tenderness on the planter surface of the first metatarsal joint, and swelling which increases on weight bearing and does not respond to uricosuric drugs should be taken as positive pointers for a possible fracture of the sesamoid bones. A.C.T. scan will finally clinch the diagnosis.

Although few workers 1,2 recommended surgical excision of the fractured sesamoid bone as a primary treatment, yet both the cases reported in this paper did very well with conservative management.

### RECOMMENDED READING

1. Parra G. Stress Fractures of the Sesamoids of the Foot. *Clin. Orthop.* (1960) 18: 281-285
2. Jahss, MH The Sesamoids of the Hallux. *Clin. Orthop* 1981 157:88-97

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