

## Peroneal tendon dislocation in Talus fracture and diagnostic value of fleck sign

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**Introduction/Purpose:** INTRODUCTION: Talus fractures are not uncommon and one of the serious fractures in foot and ankle. Peroneal tendon dislocation is one of the commonly missed soft tissue injuries which may have significant impact on the outcomes including persistent pain and swelling.

**AIM:** To report the incidence of peroneal tendon dislocation in talus fracture and the significance of fleck sign in the diagnosis of peroneal tendon dislocation.

**Methods:** We retrospectively reviewed 100 consecutive talus fractures in the period between 1/1/2011 to 1/7/2017.

Inclusion criteria were: The patient underwent open reduction and internal fixation, had pre-operative CT scan that is available for review and 3 views ankle plain radiographs.

2 independent authors review the radiographs for peroneal tendon dislocation, fleck sign and fracture classification if any. Any dispute was resolved by the senior author. Patient records were reviewed for laterality, age, sex, mode of injury, associated injuries and operative interventions.

43 ankles met inclusion criteria. 42 were males, mean age was 31 year and the predominant modes of injury were fall from height or unknown.

**Results:** Peroneal tendon dislocation was found in 9 patients out of 43. (20%). All dislocations were found in talar neck fractures, and up to 67% of Hawkins type III and IV Talar neck fractures were associated with peroneal tendon dislocation. Risk of dislocation increased with severity of the fracture. 5 cases of peroneal tendon dislocation out of 9 were associated with lateral or bimalleolar fractures.

Most of the dislocations were missed and no additional procedures were done to address such injury.

Fleck sign sensitivity was 44.4% while specificity was 88%. The Negative Predictive Value (PPV) was 86%.

**Conclusion:** Peroneal tendons dislocation is associated with 20% of talus fractures. The incidence of dislocation increases with neck fracture and severity of these fractures. Fleck sign is highly specific radiographic sign and hence we recommend intra-operative assessment of peroneal tendons in patients with fleck sign.

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