



# A RARE CASE OF ADULT ACQUIRED FLATFOOT DEFORMITY WITH CHRONIC ATRAUMATIC SUBTALAR DISLOCATION: SUCCESSFUL REDUCTION AND FUSION OF TALONAVICULAR AND TALOCALCANEAL JOINTS

Ilias Fanourgiakis<sup>1</sup>, Nikolaos Kyriakopoulos<sup>1</sup>, Emmanouil Zervos<sup>1</sup>, Vaia Grigoriou<sup>1</sup>, Konstantinos Savvas<sup>1</sup>, Anastasios Mourikis<sup>1</sup>, Alkiviadis Vossos<sup>1</sup>  
<sup>1</sup>3rd Department of Orthopaedics, General Hospital KAT

## INTRODUCTION

Adult Acquired Flatfoot Deformity (AAFD) is a complex pathology often resulting in a significant disability. In rare instances, AAFD can be associated with chronic atraumatic subtalar dislocations, leading to further complications and treatment challenges. In this study we present a rare case of a 65-year-old male patient with AAFD and chronic atraumatic subtalar dislocation due to posterior tibial tendon insufficiency (PTTI).

The primary aim of this study is to describe the successful management of this complex case through reduction and fusion of the talonavicular and talocalcaneal joints.

## METHODS AND MATERIALS

A 65-year-old male patient presented with a 7-year history of left foot pain without apparent trauma. Examination revealed tenderness over the talonavicular joint and taut skin overlying the medial foot's talar head. Imaging confirmed lateral displacement of the calcaneus, leading to the diagnosis of lateral subtalar dislocation involving the talonavicular and talocalcaneal joints, secondary to PTTI. The patient underwent surgical intervention comprising reduction and fusion of the talonavicular and talocalcaneal joints. Intraoperatively, residual cartilage was excised, and subchondral bone was curetted. The talus was repositioned and reduced. The talocalcaneal joint was stabilized using three cannulated cancellous screws, while the talonavicular joint was fixed with two bone staples connecting the navicular and talar head. The foot and ankle were immobilized using a splint for 8 weeks.

## RESULTS

At the 6-month follow-up, the patient reported no pain during daily activities. Radiographic evaluation demonstrated satisfactory alignment of the talonavicular and talocalcaneal joints, indicative of successful reduction and fusion. The patient experienced improved foot function and mobility.

## DISCUSSION

The outcomes observed in this case are consistent with findings reported by Tonogai and Sairyō (2021), who documented successful arthrodesis for chronic lateral subtalar joint dislocation caused by PTT dysfunction. The present case underscores the importance of early recognition and the pivotal role of appropriate surgical interventions, such as joint reduction and fusion, in managing complex AAFD cases effectively. Our findings resonate with the work of Chang, Williams, and Sangeorzan (2022), who explored the treatment and outcomes of atraumatic subtalar dislocations in AAFD, further validating our treatment approach.



**Figure 3.** Clinical photographs illustrating the patient's foot before and 6 months after the surgical intervention. The post-operative image (right) demonstrates significant improvement in the foot's alignment and overall structure, correlating with the patient's reported pain relief and enhanced functional capabilities..

## CONCLUSIONS

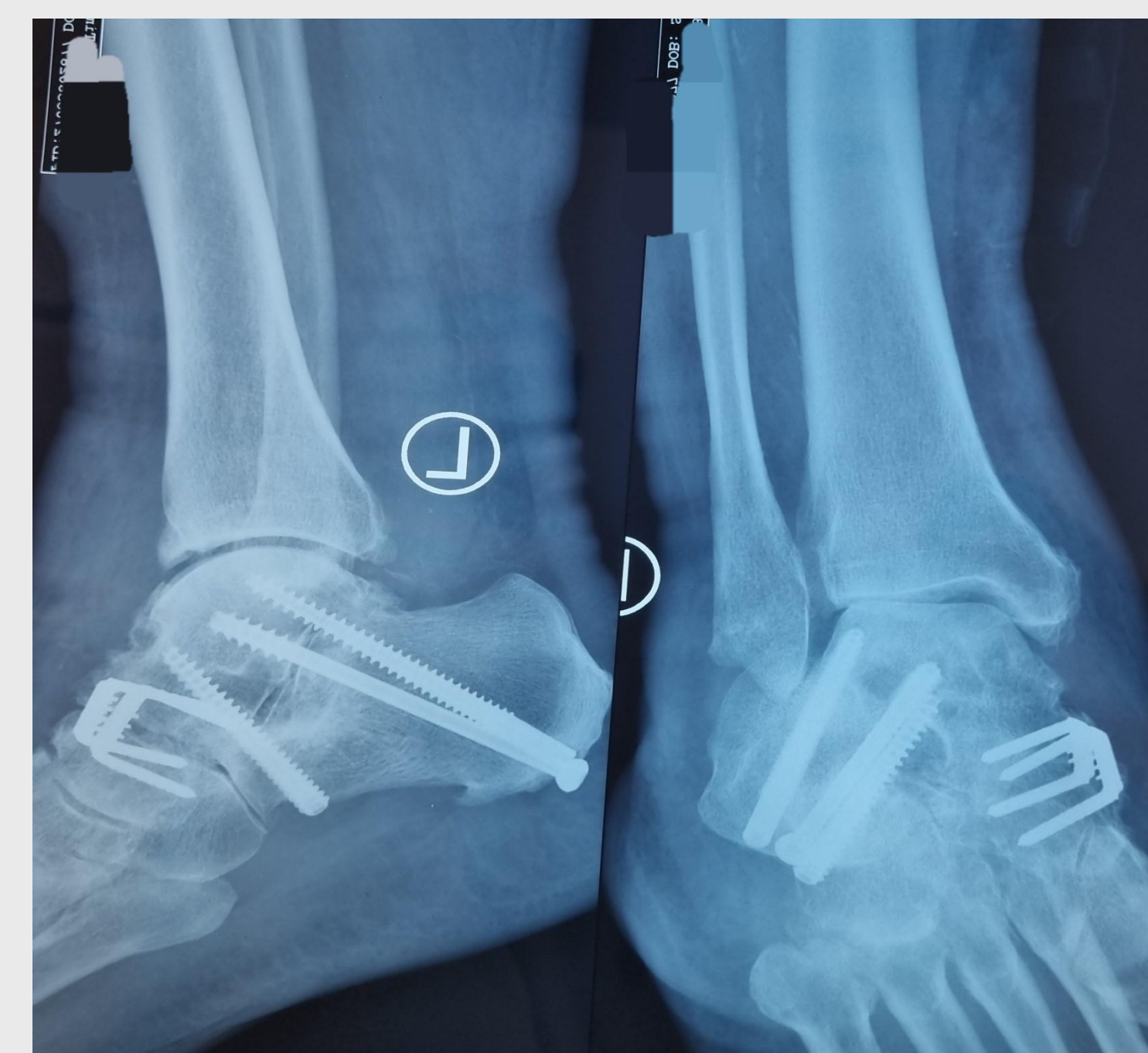
This case report highlights the successful management of a rare case of adult acquired flatfoot deformity with chronic atraumatic subtalar dislocation resulting from PTTI. Surgical intervention involving reduction and fusion of the talonavicular and talocalcaneal joints yielded favorable outcomes, including pain relief and enhanced functional abilities. The utilization of cannulated cancellous screws and bone staples provided stable fixation and union. Our findings are in accordance to the existing literature, rendering our method as a reasonable treatment.

## REFERENCES

1. Tonogai, Ichiro, and Koichi Sairyō. "Arthrodesis for chronic lateral subtalar joint dislocation caused by posterior tibial tendon dysfunction: A case report." *International Journal of Surgery Case Reports* 78 (2021): 21-25.
2. Chang, Shaun, Joan R. Williams, and Bruce J. Sangeorzan. "Treatment and Outcomes of Atraumatic Subtalar Dislocations in Adult Acquired Flatfoot Deformity." *Foot & Ankle Orthopaedics* 7.1 (2022): 2473011421S00010.



**Figure 1.** Pre-operative radiographs of the patient's ankle.



**Figure 2.** 6-month post-operative radiographs of the patient's ankle.