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Pure Medial Subtalar Dislocation: A Series of Three Cases

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Abstract **Case Report**

Pure medial subtalar dislocation is a rare traumatological injury, representing approximately 1% of all traumatic dislocations. We report a series of three cases managed at our department. Case 1: A 20-year-old male sustained a closed right medial subtalar dislocation following a stair-fall, with transient vascular compromise (capillary refill time >3 seconds) and no neurological deficit; plain radiographs and CT confirmed a pure dislocation without fracture. Case 2: A 31-year-old male involved in a scooter accident presented with a left medial subtalar dislocation associated with a non-displaced avulsion fracture of the tip of the lateral malleolus. Case 3: A 62-year-old male with hypothyroidism and hypertension sustained a right medial subtalar dislocation following a stair-fall, with intact neurovascular status. In all three cases, emergency closed reduction was achieved using the boot-pull (arrache-botte) manoeuvre under sedation, followed by below-knee cast immobilisation with six weeks of non-weight-bearing. Post-reduction imaging confirmed satisfactory articular congruence in each case, and clinical follow-up demonstrated favourable functional outcomes without avascular necrosis or post-traumatic arthritis. This series highlights the importance of prompt recognition, careful neurovascular assessment, and urgent closed reduction in the management of this orthopaedic emergency.

Keywords: Subtalar dislocation; peritalar dislocation; talocalcaneal dislocation; ankle trauma; closed reduction; case series.

INTRODUCTION

Subtalar dislocation — also termed peritalar or talocalcaneonavicular dislocation — is defined as simultaneous dislocation of the talocalcaneal and talonavicular joints, with the talus remaining congruent within the tibiotalar mortise [1]. It represents approximately 1% of all traumatic dislocations [1, 2]. The medial variety, produced by forced inversion of a plantarflexed foot, accounts for 75–85% of reported cases and occurs predominantly in young males [1, 3]. We report a series of three cases of pure medial subtalar dislocation managed at our department and discuss their clinical, radiological, and therapeutic features. This case series is reported in accordance with the CARE reporting guidelines.

CASE PRESENTATION

A 20-year-old male, with no relevant past medical or surgical history, presented to our emergency department following a stair-fall. The mechanism involved a forced inversion and plantarflexion of the right foot. Clinical examination revealed marked hindfoot deformity with medial displacement of the foot, significant swelling, and complete functional impairment of the right ankle. The overlying skin was intact. Distal pulses were palpable; however, capillary refill time was greater than 3 seconds, indicative of vascular compromise secondary to local deformity-related compression. No neurological deficit was identified.

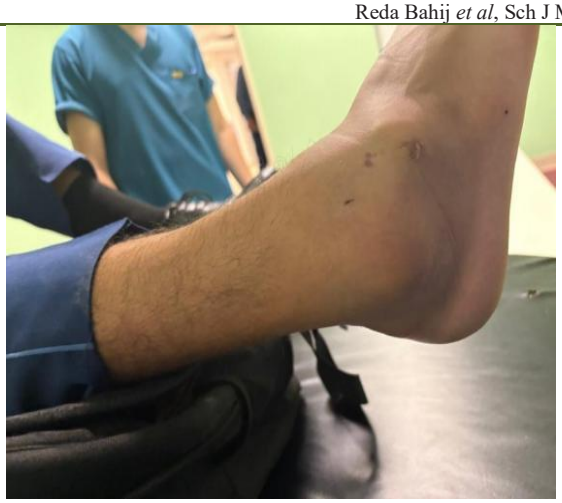

Figure 1A: Clinical photograph at presentation: closed injury with soft tissue swelling of the right ankle

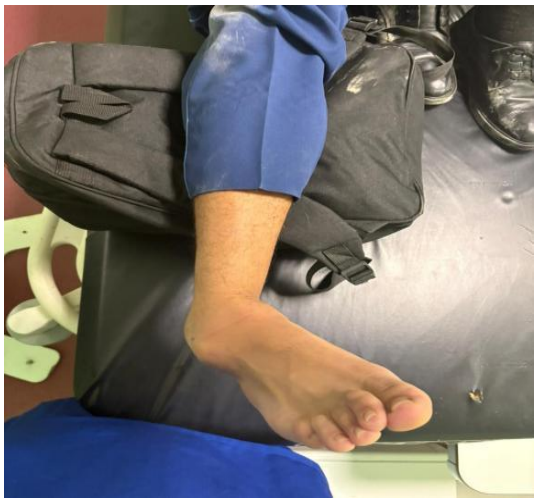

Figure 1B: Clinical photograph demonstrating medial displacement deformity of the hindfoot

Standard anteroposterior and lateral radiographs of the right ankle and foot demonstrated medial displacement of the calcaneopedal unit beneath a normally seated talus within the tibiotalar mortise, establishing the diagnosis of pure medial subtalar dislocation without osseous fracture [3] (Figure 2).

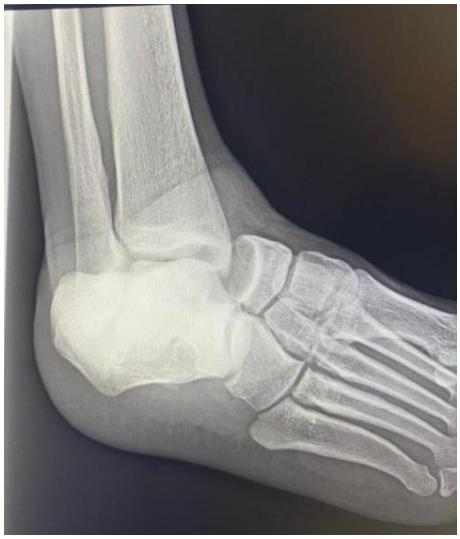

Figure 2A: Lateral plain radiograph: medial displacement of the calcaneopedal unit with the talus in the tibiotalar mortise

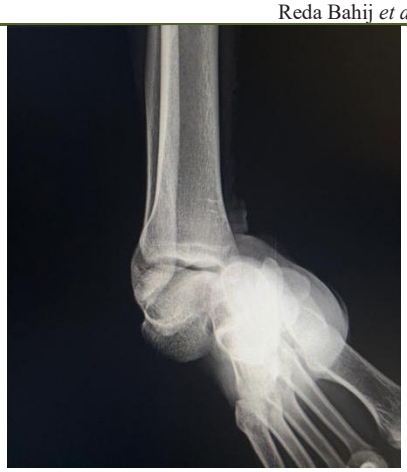

Figure 2B: Anteroposterior plain radiograph confirming pure subtalar dislocation

Closed reduction was performed urgently under procedural sedation. With the knee flexed to relax the gastrocnemius-soleus complex, the boot-pull (arrache-botte) manoeuvre was applied: sustained axial traction along the foot axis with progressive inversion, then eversion [1, 3]. Reduction was achieved with an audible clunk. Post-reduction fluoroscopic control confirmed good articular congruence (Figures 3–4). The ankle was immobilised in a below-knee cast in neutral position, with strict non-weight-bearing instructions for six weeks.

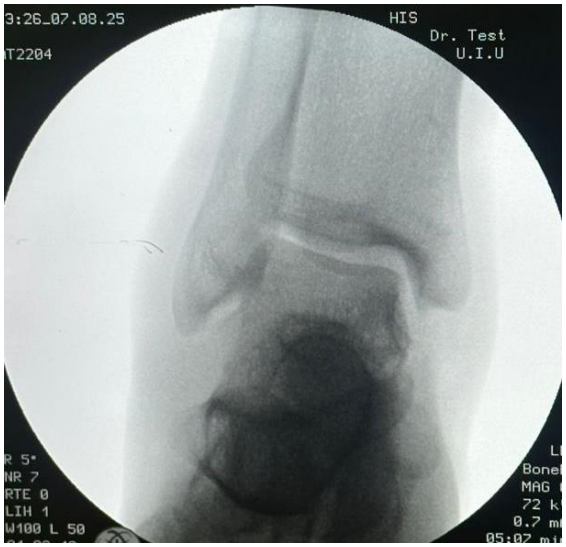

Figure 3A: Intraoperative fluoroscopic image confirming satisfactory reduction with good articular congruence

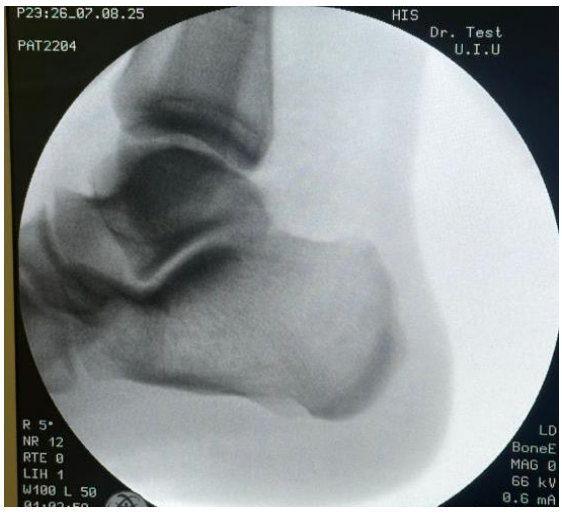

Figure 3B: post-reduction fluoroscopic lateral view: adequate alignment restored

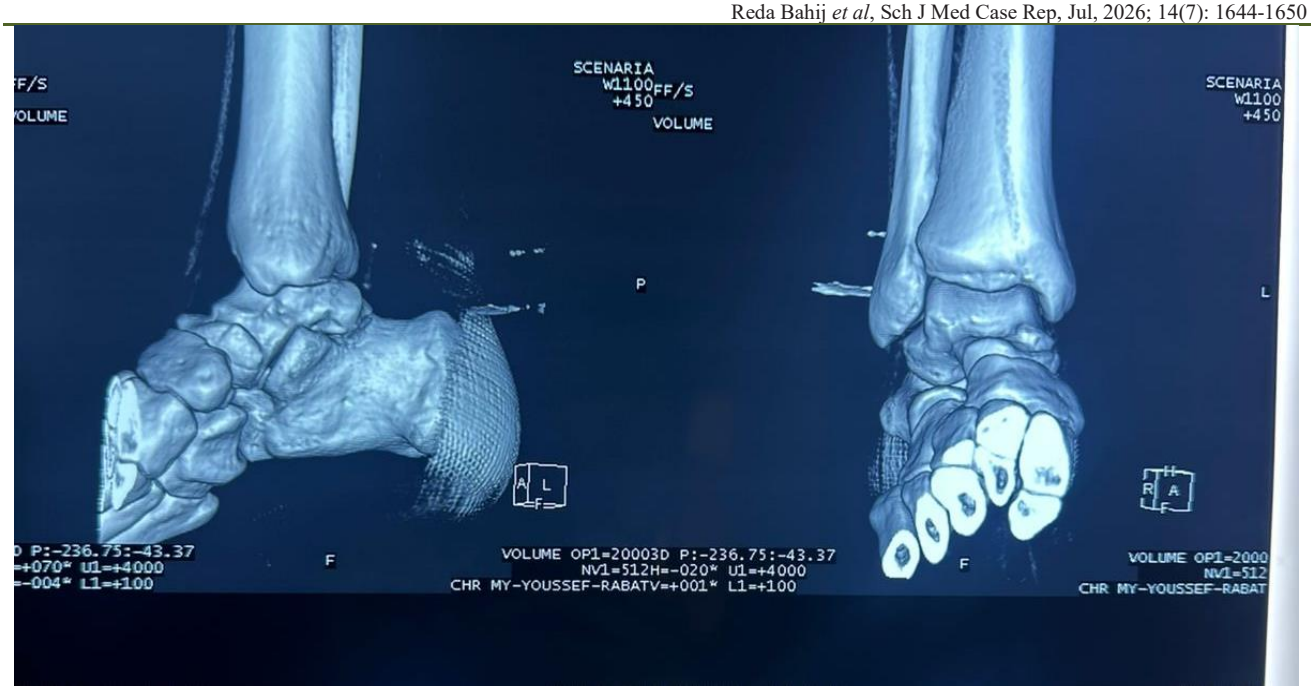

Figure 4: CT scan post reduction

The ankle was immobilised in a below-knee cast in neutral position, with strict non-weight-bearing instructions for six weeks. Clinical and radiological follow-up confirmed maintained reduction. Physiotherapy was initiated after cast removal. At three-month clinical follow-up, the patient demonstrated satisfactory range of motion and functional recovery without signs of subtalar arthritis or talar avascular necrosis.

Case 2: Scooter accident with lateral malleolar avulsion

A 31-year-old male was involved in a public road accident following a scooter fall, resulting in a closed trauma to the left ankle. Clinical examination showed an obvious ankle deformity with complete functional impairment. Neurovascular examination was normal. Radiological assessment revealed a subtalar dislocation associated with an avulsion fracture of the tip of the lateral malleolus.

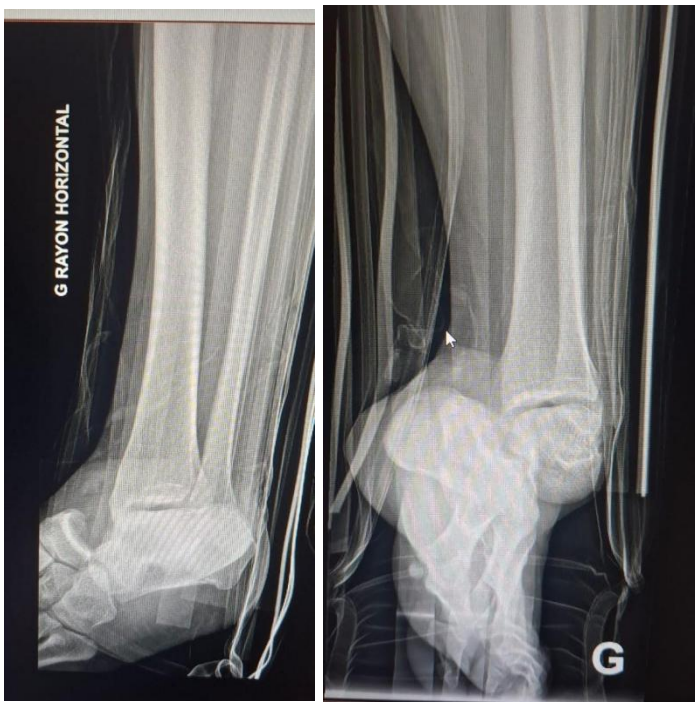

Figure 5: Pre-reduction radiographs of the left ankle (AP and lateral views) showing medial subtalar dislocation with lateral malleolar avulsion fracture (Case 2)

Emergency closed reduction was performed under sedation using the same boot-pull (arrache-botte) technique. Post-reduction imaging confirmed successful relocation of the subtalar joint. The avulsed fragment was non-displaced and deemed stable. The patient was immobilised in a below-knee cast in neutral position, with non-weight-bearing for six weeks. Follow-up at three months showed maintained reduction and complete healing of the avulsion fracture. The patient subsequently underwent physiotherapy with good functional recovery.

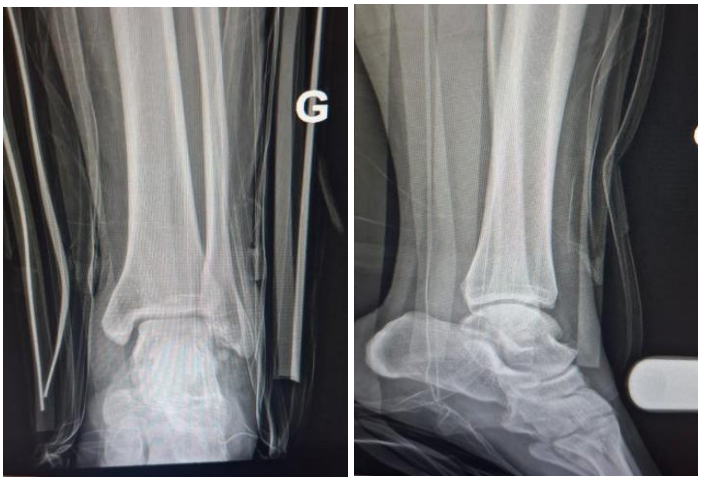

Figure 6: Post-reduction radiographs of the left ankle (AP and lateral views) confirming correct articular alignment (Case 2)

Case 3: Elderly patient with comorbidities and medial dislocation

A 62-year-old male with a past medical history of hypothyroidism (on levothyroxine and hydrocortisone) and hypertension (on antihypertensive medication) presented after a fall down stairs. Clinical examination revealed a medial subtalar dislocation with the foot displaced medially relative to the talus. The overlying skin was intact, and neurovascular status was normal.

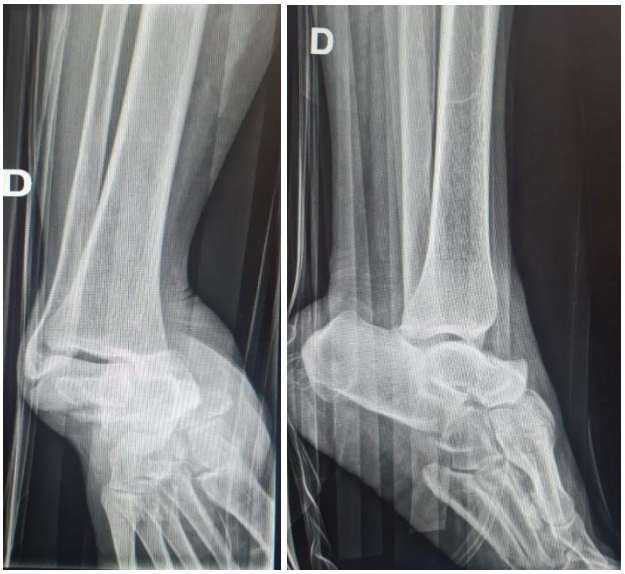

Figure 7: Pre-reduction radiographs of the right ankle (AP and lateral views) showing medial subtalar dislocation (Case 3)

Closed reduction was attempted successfully under sedation, followed by immobilisation in a plaster boot. Strict non-weight-bearing was prescribed for six weeks. Serial clinical and radiological follow-ups showed maintained reduction without signs of avascular necrosis or post-traumatic arthritis. The patient's comorbidities were managed perioperatively, and he tolerated the immobilisation well. After cast removal, gradual rehabilitation was initiated with favourable short-term outcome.

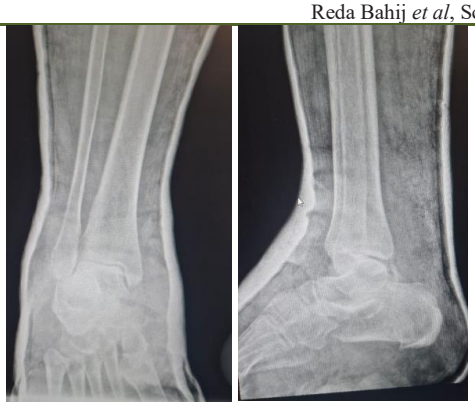

Figure 8: Post-reduction radiographs of the right ankle (AP and lateral views) confirming correct articular alignment (Case 3)

DISCUSSION

Pure subtalar dislocation is a rare injury, with fewer than 500 cases described in the literature. The medial variant is the most frequent and results from forced inversion of a plantarflexed foot, causing sequential ligamentous failure: the dorsal talonavicular ligament ruptures first, followed by the interosseous talocalcaneal ligament, then the calcaneofibular ligament [3]. The clinical deformity is striking, and radiographic diagnosis — particularly on the anteroposterior view — is straightforward, with the talus seated in the mortise while the calcaneopedal unit is displaced medially [3, 4].

CT scanning, while not mandatory in uncomplicated cases, is valuable for excluding osteochondral fractures that may complicate reduction or alter prognosis, as illustrated by Case 1 in our series [3, 4]. Closed reduction under anaesthesia or sedation is the first-line treatment, successful in approximately 80–90% of cases. The boot-pull (arrache-botte) manoeuvre — used in all three of our cases — is the classical technique [1, 3]. Irreducibility, caused by interposition of peroneal tendons, the extensor retinaculum, or bony fragments, necessitates open reduction in 10–20% of cases [1, 4]. Case 2 in our series illustrates that a non-displaced lateral malleolar avulsion fracture need not preclude successful closed reduction, provided the fragment is stable; conservative management with cast immobilisation yielded full fracture healing. Case 3 demonstrates that closed reduction can be safely achieved even in older patients with medical comorbidities, with careful perioperative management and appropriate rehabilitation.

Following successful reduction, cast immobilisation for 4–6 weeks without weight-bearing is standard, followed by physiotherapy. The risk of avascular necrosis of the talus is estimated at 4%, and subtalar arthritis at 31% [5]. Prognosis is generally favourable for pure dislocations without skin opening or associated fracture, as in all three of our cases [1, 5]. The stair-fall mechanism, reported in two of our patients, is less commonly described than sports injuries, yet generates sufficient inversion-plantarflexion force to produce this lesion. The finding of capillary refill time >3 seconds without overt vascular deficit in Case 1 highlights the importance of close neurovascular monitoring and prompt reduction in these cases [3].

CONCLUSION

Pure medial subtalar dislocation, though rare, is an orthopaedic emergency requiring prompt recognition and treatment. Closed reduction under sedation, when achievable, yields good articular congruence and functional outcomes. Awareness of this injury, careful neurovascular monitoring, and appropriate post-reduction immobilisation are essential to minimise complications.

Competing Interests

The authors declare no competing interests.

Authors' Contributions

R.B. and A.A. contributed to the conception and design of the study, data acquisition, and drafting of the manuscript. O.A., M.R.F., J.M., M.B., R.A.B., M.K., and M.O.L. contributed to critical revision of the manuscript for important intellectual content. All authors reviewed and approved the final version submitted for publication.

Patient Consent

Written informed consent was obtained from all three patients for publication of this case series and accompanying images. Copies of the written consent forms are available for review by the Editor-in-Chief of this journal.

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REFERENCES

1. Jarde O, Trinquier-Lautard JL, Mertl P, Tran F, Vives P. Les luxations sous-astragaliennes, à propos de 35 cas. Rev Chir Orthop. 1996;82(1):42-8.

2. Jerome JT, Varghese M, Sankaran B. Anteromedial subtalar dislocation. J Foot Ankle Surg. 2007;46(1):52-4.
3. Amar MF, Chbani B, Loudiyi D, *et al.,* Luxation sous-talienne pure chez un footballeur (à propos d'un cas). J Trauma Sport. 2009;26(4):250-252.
4. Baumgartner A, Huguier A. Les luxations sous-astragaliennes. Rev Chir Orthop Suppl. 1983;2(69):141-148.
5. Schuind F, Andrianne Y, Burny F. Fractures et luxations de l'astragale — Revue de 359 cas. Acta Orthop Belg. 1983;49(6):652-689.
6. Nkaoui M, Boufettal M, Sasbou Y, Kharmaz M, El Ouadaghiri M, Lamrani MO, *et al.,* Luxation sous-talienne interne pure: à propos d'un cas. Pan Afr Med J. 2017; 27:123. doi:10.11604/pamj.2017.27.123.12173.