



Case Study

IRREDUCIBLE PLANTAR DISLOCATION OF THE INTERPHALANGEAL JOINT OF THE HALLUX: ABOUT A CASE

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ABSTRACT

The plantar dislocation of the interphalangeal joint of the hallux is a very rare lesion. The mechanism of this lesion was a combination of an axial load with plantar flexion. We present a case report with 1 year follow-up data of a male soldier of 25 years old, who has exhibited an interphalangeal dislocation of the right hallux for three weeks when the patient struck his hallux against the edge of the stairs. The patient did not consult urgently. Three weeks later, and in the face of persistent pain, deformation and difficulty in footwear, especially during military exercises and during walking, the patient presented himself in orthopedic consultation. Clinical examination and radiographic examination are in favor of a plantar dislocation of the interphalangeal of the hallux. Open cut was achieved after failure by external maneuver reduction. The dislocations of plantar feet are very rare. Their treatment depends on the patient's previous activity and the time between the injury and the final treatment.

KEYWORDS: fixation, open reduction, plantar plate, surgery, x-pins.

INTRODUCTION

Dislocation at the level of the toes is a rare condition. It most often affects the metatarsophalangeal joint of the hallux [1]. However, dislocation of the interphalangeal joint (IP) of the hallux is very rare and especially in its plantar form [2]. In the absence of a closed reduction, the incarceration of a plantar plate must always be considered as a barrier to manual reduction, hence the indication of an open-air reduction [3].

We report a very rare case of irreducible plantar dislocation of the hallux IP joint.

CASE REPORT

This is a 25-year-old young male soldier, without significant medical history, who struck his hallux straight against the edge of the stairs in the beginning of June 2015, resulting in pain and functional impotence. The patient did not consult. He was content only with taking analgesics to calm the pain that disappeared in a few days. Three weeks later, the patient consulted in our department because of the persistence of the painful symptoms as well as the deformation which were the source of major functional handicap during the military exercises.

The clinical examination had found a distorted, shortened hallux which made first contact with the floor on weight

bearing (**Fig 1**). Passive plantar flexion of the hallux IP joint was possible, while active flexion was impossible. Palpation revealed a dislocation of the distal phalanx, which was confirmed by conventional radiography (**Fig 2**). An attempt to reduce by closed means was impossible.

The indication for an Open reduction of the Hallux IP Joint was indicated as closed reduction was unsuccessful. This was performed by lateral dorsoplantar pathway after placing the patient in a prone position. Monitored anesthesia care was administered in conjunction with spinal anesthesia. A tourniquet at the root of the limb was used.

DISCUSSION

IP dislocations of the toes are rare, and when they occur, they most often affect the hallux [4] where they appear as isolated post-traumatic deformities [5]. Almost all the cases described in the literature are dorsal displacement. Only one case, with irreducible plantar displacement due to accessory sesamoid bone, has been reported [6]. The stability of the IP joint is ensured by the collateral ligaments, the tendons and the accessory plantar ligament, as well as the short size of the distal phalanx, which normally resists luxation [3]. The combination of axial load with plantar flexion is the mechanism responsible for this lesion [2].

These dislocations can hardly be visualized clinically and go unnoticed. A thorough radiological examination is essential for diagnosis. The irreducibility of IP dislocations results most often from a rupture of the plantar plate and its interposition in the articular space. A complete disruption of the plantar plate at the level of its proximal and distal insertion must take place for the occurrence of a complete dislocation [1].

From a therapeutic point of view, the closed reduction can be tried, but it is not effective in most cases because of the intra-articular interposition of the plantar plate [7]. Several authors argue that practically all traumatic IP dislocations of the hallux require an open-air reduction [5]. There are different surgical techniques for the therapeutic approach of this lesion which give good clinical results. A delay between treatment and final treatment compromises certain therapeutic choices.

In the case of our patient, we performed an open reduction of the joint associated with a temporary fixation by X-pins

After excision of the fibrous tissues formed which perpetuated the dislocation, it was possible to reduce it and the latter was maintained by X-broaching (**Fig 3**). Walking was permitted with specialised footwear, which permitted only heel weight bearing for six weeks. No postoperative complications were reported. The removal of the pins was performed at six weeks post operation. After a one-year follow-up, the results were satisfactory. The patient could run and walk without discomfort.

Figure 1: The plantar dislocation of the interphalangeal joint of the hallux.



Figure 2: Radiographic aspect.



Figure 3: Postoperative control.



CONCLUSION

Plantar dislocation of the IP Joint of the Hallux is rare. The rupture of the plantar plate and its interposition in the articular space is the frequent cause of their irreducibility. Their treatment depends on the patient's previous activity and the time between the injury and the final treatment.

REFERENCES

- [1]. Miki T, Yamamuro T, Kitai T. An irreducible dislocation of the great toe. Report of two cases and review of the literature. *Clin Orthop* 1988, 230: 200–206.
- [2]. Crosby LA, McClellan JW, Prochaska VJ. Irreducible dorsal dislocation of the great toe interphalangeal joint: case report and literature review. *Foot Ankle Int* 1995, 16 (9): 559–561.
- [3]. Nelson TL, Uggen W. Irreducible dorsal dislocation of the interphalangeal joint of the great toe. *Clinical Orthopaedics and Related Research* 1981, 157:110–112.
- [4]. Nakae H, Endo S, Hoshi S. A case of dorsal dislocation of the proximal interphalangeal joint of the fourth toe. *Arch Orthop Trauma Surg* 1996, 115 (1):59–60.
- [5]. Brunet JA, Tubin S: Traumatic dislocation of the lesser toes. *Foot Ankle Int* 1997, 18 (7): 406-411.
- [6]. Ohmori T, Katsuo S, Sunayama C, Mizuno K, Ojima T, Yamakado K, *et al.* Irreducible plantar dislocation of the interphalangeal joint of the great toe due to an accessory sesamoid bone: a case report. *Archives of orthopaedic and trauma surgery* 2016, 136 (4): 533-537.
- [7]. Liberson A, Nyska M, Klenerman L: Irreducible interphalangeal dislocation of the big toe: the plantar surgical approach. *The Foot* 1993, 3 (1): 28-30.

