



E-ISSN: 2707-8353

P-ISSN: 2707-8345

IJCRO 2023; 5(1): 103-105

www.orthocasereports.com

Received: 30-01-2023

Accepted: 09-03-2023

Mamadou Moustapha Diallo
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

Alpha Mamadou Felah Diallo
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

Mohamed Lamine Bah
Department of Orthopedics,
Traumatology CHU, Ignace
Deen, Republic of Guinea,
Guinea

Tafsir Camara
Department of Orthopedics,
Traumatology CHU, Ignace
Deen, Republic of Guinea,
Guinea

Mohamed Sidibé
Department of Orthopedics,
Traumatology CHU, Ignace
Deen, Republic of Guinea,
Guinea

Ibrahima Gallé Diallo
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

Nouhou Mangué Camara
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

Leopold Lamah
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

Corresponding Author:
Mamadou Moustapha Diallo
Department of Orthopedics,
Traumatology CHU, Donka,
Republic of Guinea, Guinea

The floating phalanx of the left-hand second finger: About a case

Mamadou Moustapha Diallo, Alpha Mamadou Felah Diallo, Mohamed Lamine Bah, Tafsir Camara, Mohamed Sidibé, Ibrahima Gallé Diallo, Nouhou Mangué Camara and Leopold Lamah

DOI: <https://doi.org/10.22271/27078345.2023.v5.i1b.153>

Abstract

We report a case of simultaneous bipolar dorsal dislocation of the interphalangeal joints of the second left finger following an occupational accident. The treatment was Orthopaedic by syndactylization after reduction by external manoeuvre for three weeks. At the last follow-up, joint mobility was identical to normal.

Keywords: Dislocation; Interphalangeal joints

Introduction

Pure floating phalanges described in the literature are very rare^[1]. We report an exceptional lesion association: a simultaneous dislocation of the proximal interphalangeal (IPP) and distal (IPD) of the second finger. Although the reduction is most often a surgical procedure, Orthopaedic treatment should always be attempted first.

Through this study, we will discuss the diagnostic, anatomical and incredibly therapeutic aspects of this lesson.

Clinical Case

This is a 48-year-old patient, a carpenter, left-handed, with no pathological history, received three hours after a trauma supported by hyperextension of the end of the second finger left during a fall from the roof of a house, causing deformation of the index finger with shortening (Fig. 1-2). The AP and lateral X-ray showed a dorsal dislocation of the proximal and distal interphalangeal of the second finger without associated bone lesion, resulting in a floating phalanx (Fig. 3-4).



Fig 1-2: Deformation and shortening of the second finger: bipolar dislocation of the second phalanx

We proceeded urgently; under the digital block of the base of the index finger, a closed reduction was performed: gentle traction with slight flexion of the interphalangeal joints. The testing of active and passive joint mobility post-reduction of the PIP and the IPD in search of instability in the frontal plane was standard, particularly the full extension of the second finger. Follow-up radiographs confirmed the reduction and the absence of associated fracture (Fig. 5-6). The patient had immobilization in extension with syndactylization of the second and third fingers for three weeks. Functional rehabilitation was started in the fourth week.

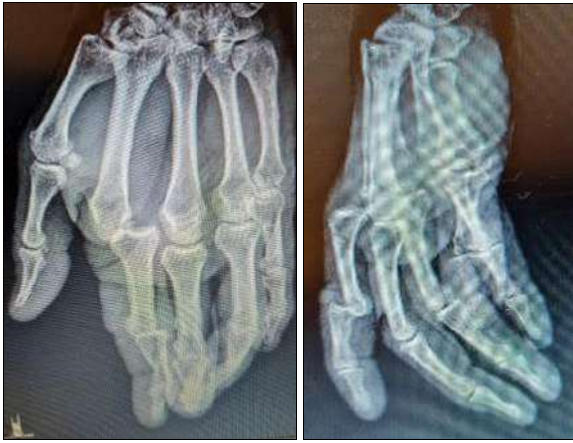


Fig 3-4: Plain x-ray of the hand showing bipolar dislocation of P1 of the second finger without associated bone lesion

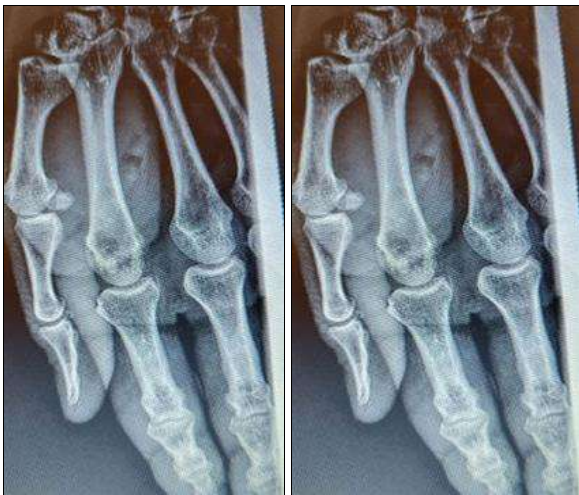


Fig 5-6: Control X-ray confirming the reduction of the dislocation

At three months, the joint range of motion assessment found flexion at 120° for the PIP and 85° for the DIP, active extension at 0° for the PIP and the DIP, with no residual pain or laxity.

Discussion

Bipolar interphalangeal dislocations require high-energy trauma, strong bone, and supportive posture.

The anatomical and physiological particularities of this joint explain its rarity. Indeed, the stability of the interphalangeal joint is ensured by the articular capsule, reinforced by the external and internal collateral ligaments, the palmar plate, the flexor sheath, the lateral bands, and the triangular ligament of apparet extension [2]. La plaque palmar has a particularly resistant proximal insertion which opposes hyperextension.

The mechanism of occurrence corresponds to a force applied to the end of the affected finger, resulting in hyperextension.

Forced would cause the dislocation of the DIP and then the PIP [3]. Initially, there is an avulsion of the palmar plate proximal to the DIP and distal to the PIP, sometimes responsible for bone avulsion at the base of the second phalanx. In rare cases, the volar plate ruptures at the level of the PIP proximal to its frenulums. As shown by Bowers and al. [4], the site of disinsertion of the volar plate also depends on the kinetics of the trauma. In the case reported, it is a hyperextension of the finger causing a rupture of the distal

ligaments of the palmar plate, in particular at the level of the PIP where the insertion is the most resistant; secondarily, there is a tear or even rupture of the collateral ligaments which can be the cause of secondary lateral instability.

The treatment is most often Orthopaedic and consists of reducing the phalanx under a digital Anaesthetic block by exerting dorsal pressure on its dislocated base while pulling the finger in the axis.

It is advisable to start with reducing the IPD to relax the tendon of the deep flexor of the fingers and thus facilitate the reduction of the PPI. It is sometimes necessary to perform forced hyperextension of the PIP to open up the palmar plate and thus obtain a correct reduction [5]. These external manoeuvres must be performed gently not to aggravate a possible ligament injury. Joint stability must be checked, both active and passive, to detect associated ligament or tendon damage [6].

In the case of an irreducible dislocation, the extrication of the volar plate, the flexor tendon or an interposed osteochondral fragment must be carried out. If functional mobility testing suggests a lesion of the deep flexor tendon, it must be sutured or reinserted [7].

The immobilization of the IPP and the IPD in straightness by a splint for three weeks allows regression of the inflammatory phenomena in order to be able to start then an early functional rehabilitation aimed at combating the formidable complications that are the stiffness. And residual pain [8-11].

However, immobilization in the wrong position leads to significant stiffness; some authors have even proposed making temporary pinouts in extreme cases [9-10].

Conclusion

Bipolar dislocations of the interphalangeal joints of the second finger remain rare. Reduction by external manoeuvres is usually sufficient in simple cases. On the other hand, it is necessary always to test the joints after any reduction. Thus, an early reduction followed by adequate immobilization and sufficient rehabilitation makes obtaining an excellent functional result possible.

Conflict of Interest

Not available

Financial Support

Not available

References

1. Tomcovc'ik L, Kubasovsky J, Kitka M. Simultaneous double interphalangeal dislocation on a single finger. *Acta Chir Orthop Traumatol Cech.* 2003;70:309-10.
2. Bailie DS, Benson LS, Marymont JV. Proximal interphalangeal joint injuries of the hand. Part I: anatomy and diagnosis. *Am J Orthop (Belle Mead NJ).* 1996;25:474-7.
3. Alonso De Ros JF, Proubasta IR, Dolz Jordi C, Mir Bullo X. Simultaneous luxation of proximal and distal interphalangeal joints of the fingers. *Ann Chir Main.* 1987;6:43-7.
4. Bowers WH, Wolf Jr JW, Nehil JL, Bittinger S. The proximal interphalangeal joint volar plate. I. An anatomical and biomechanical study. *J Hand Surg. Am.* 1980;5:79-88.

5. Ron D, Alkalay D, Torok G. Simultaneous closed dislocation of both interphalangeal joints in one finger. *J Trauma*. 1983;23:66-7.
6. Eaton RG. *Joints injuries of the hand*. Springfield, Ill: CC Thomas; c1971.
7. Stripling WD. Displaced intra-articular osteochondral fracture - cause for irreducible dislocation of the distal interphalangeal joint. *J Hand Surg Am*. 1982;7:77-8.
8. Tabib W, Sayegh S, Frick M, Ninkabou Y, Meyer M. Simultaneous traumatic dislocations of the index finger. Apropos of a case with review of the literature. *Rev Chir Orthop Reparatrice Appar Mot*. 1998;84:75-8.
9. Inoue G, Kino Y, Kondo K. Simultaneous dorsal dislocation of both interphalangeal joints in a finger. *Am J Sports Med*. 1993;21:323-5.
10. Krebs B, Grøn LK. Simultaneous dorsal dislocation of both interphalangeal joints in a finger. *Br J Sports Med*. 1984;18:217-9.
11. Small JO, Brennen MD, Colville J. Early active mobilisation following flexor tendon repair in zone 2. *J Hand Surg Br*. 1989;14:383-91.

How to Cite This Article

Diallo MM, Diallo AMF, Bah ML, Camara T, Sidibé M, Diallo IG, *et al*. The floating phalanx of the left-hand second finger: About a case. *International Journal of Case Reports in Orthopaedics*. 2023;5(1):103-105.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.