Management Of An Open Lisfranc Columno-Spalular Dislocation In A Poor Area: A Case Report And Observation At Orthopedics- Traumato Department Of National Hospital I.Deen

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Citation

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Abstract
Open column-spatular dislocation is a rare pathology in our daily practices, the one associated to tendinous and arterial injuries on an amenorrhea is exceptional. The management is controversial. Careful debridement and reduction of the dislocation with pins are the technic of choice covered with appropriate prophylactic antibiotic therapy(O1) .

We are going to discuss about the mechanism, evaluate injuries and the management of this rare injury.

INTRODUCTION
LISFRANC’s Fractures or Dislocations are rare injuries, their frequency is estimated at 1,7% among all midfoot injuries (1). Lisfranc’s open dislocations happen after a high energy trauma, commonly during vehicles’ collisions (2,3). They are rare and their annual incidence estimated a 1/500,000 patients (4).

The goal of this work was to present a rare open form one of columno-spatular of Lisfranc.

OBSERVATION:
A 23-year-old female with a3 month history of amenorrhea was admitted in our surgical casualty from Matam (one of capital city quarter a 5 km to down town) around one hour after a collision between a motorcycle (carrying the lady) and a truck. She was projected from the motorcycle during the event and fell on the right led first in forced and inverted equinun position.

At admission we found on clinical examination:
- An avulsion of 1st cuneiform retained solely by ligaments/ tendons, a fascio-cutaneous detachment from the inner malleoli to the lateral border of right foot, extensor of hallus tendon ruptured and pedal artery, and fascio-cutaneous detachment of antero-intern face of 1/3 upper right leg exposing 4cm of tibia , the posterior tibial pulse was palpable, sensitivity and motricity were preserved on the toes except the big one) (figure 1)
- X ray of the right foot F/P showed a divergent columno-spatular dislocation with 1st cuneiform avulsion
- OBGYN examination concluded at a 14 weeks ultrasound monofetal pregnancy,
- Laboratory exams were unremarkable.

The patient was taken in the operating theatre 4 hours after the accident and under spinal anesthesia, we performed a copious debridement, reduced and MTT pinning with 2 Kirschner 15/10 (figure 2a), pedal artery repaired with 5/0 prolén with interrupted suturing, and extensor tendon repairing with prolén followed by skin closure with interrupted sutures.(figure 2b).

A debridement and skin approximating of fascio-cutaneous detachment of the right 1/3 upper leg.

She was submitted under IV antibiotics for 5 days postoperatively (ceftriaxone 1g qid), Lovenox 0,40mg s/c ONCE A DAY for 7days, Dolipran 1000mg in needed. The patient was given 1500 s/c tetanus antibody at admission. The wounds were healed at postoperative day 21.

She was ambulated at POD# 30, helped with a walker.
Spontaneous abortion was observed at postoperative day 35.

Pin removal was done under local anesthesia at 8 months after the procedure.

At the 12th month, was assessed, walked normal, no limps as shown on image stepping on (one leg) monopodal position (figure 3).

We used Kitaoka criteria to assess our patient and the result was judged as good. Those criteria are based on pain, functional, and alignment of front and back foot (see table I).

**Figure 1**
Showing an open dislocation with avulsion of the 1st cuneiform confirmed by the X-ray of the forefoot from the front; a section of the tendon of the extensor of the halux and the pedicular artery.

**Figure 2**
a) x-ray Check-up which shows a perfect reduction of the dislocation fixed by two kirschner pins; b) Showing the repair of lesions (artery, tendon and skin).

**Figure 3**
Showing the functional results in monopodal station with good stability of the foot without vasculo-nervous disorder.
DISCUSSIONS

Open columno-spatular dislocation is an extremely rare pathology in our daily practice. In five years of practice, we have seen only 1 case in our department. We found that forced flexion of foot, while the front foot was blocked on the ground when the patient was ejected in front of with a forced valgus of front foot during her fall was the mechanism. Elsewhere, force adduction and flexion of front foot as mechanisms were described by Mulier T. et al. (4) in the literature. Open Lisfranc columno-spatular dislocations were described by many authors (2,3,5). Associated of open Lisfranc dislocations with tendon and arterial rupture on pregnancy have not yet described in the literature. Isolated Lisfranc dislocations were reported by some authors (6,7,8). There is no consensus in the management of Lisfranc dislocated fractures. Reduction by pinning was described by Mulier Tet al. (4). Open forms, after debridement, a reduction through Kirschner pinning remains consensual/common (9). The same therapeutic procedure has been used in our patient. We proceeded at a reduction of dislocation including the 1st cuneiform then pinning MTT/TMT with 2 Kirschner pins OF 15 /10th and pedal artery repairing with prolén 5/0 cleaning then ends with low molecular weight heparin. The arterial (good repairing) patency was confirmed by feeling pedal arterial pulse on the distal segment. The halluc extensor was repaired in U shaped and skin closure with interrupted sutures. No complications were found 6 years after and the result judged as Good according to Kitaoka. On the other hand, the MTT/TMT pinning technic has been described by Mulier T. et al. (4).

The functional result/ or outcome depends mainly on the anatomic reduction (a good reduction between cuneiforms and the cuboid on one side and Metatarsate joints other side) as described by Renner K et al (10).

CONCLUSION

Columno-spatular dislocations is a rare pathology in our daily practices. The open form ones with associated vascular injuries on pregnancy are very uncommon/ exceptional.

The management of these associated injuries necessitates/ a team work or multidisciplinary team. The functional result depends on early management.

References

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