Treatment of Chopart Joint Injury

Zagal, Patricio; Fuentes, Patricio; Layseca, Alvaro; Piga, Camilo; Gutiérrez, Rodrigo; Bergeret, Juan; Verschae, Gregorio

Foot and ankle Surgery department, Hospital del Trabajador
Santiago de Chile
Disclosure

Treatment of Chopart Joint Injury

Patricio Zagal

My disclosure is in the Final AOFAS Mobile App.

I have no potential conflicts with this presentation.
• Chopart joint corresponds to the anatomical limit between the hindfoot and midfoot.
• In terms of function it is divided into:
  – medial column (talonavicular joint) and
  – lateral column (calcaneocuboid joint)
• Related to high energy trauma
• Low overall incidence
• The anatomical articular reconstruction has been associated with better results.
Material and Method

• Retrospective study
• Patients with Chopart fracture-dislocation diagnosis in a 2 year period treated in our center were considered
• Reduction and osteosynthesis of associated fractures was made
• In cases with massive articular impaction and/or instability, transarticular LCP plating was performed.
Material and Method

- Standardized algorithm of surgical treatment
  - Medial and lateral column
  - Stability

- Clinical and radiological results
  - Simple radiographs and CT scan
  - AOFAS score
CHOPART FRACTURE DISLOCATION

OPEN INJURY

STABLE

UNSTABLE

TSCERNE 0-1

TSCERNE 2-3

SURGICAL DEBRIDEMENT AND EXTERNAL FIXATION

Surgical Treatment in One Step

Transarticular Plating

Soft Tissue Damage

Clinical and Serial X Ray With Load

Without Fracture
WITH FRACTURE

LATERAL COLUMN
- CALCANEAL ORIF
  - POOR BONE STOCK
    - BONE GRAFT + TRANSARTICULAR PLATING
      - STRESS
        - MEDIAL TRANSARTICULAR PLATING
  - CUBOID ORIF

MEDIAL COLUMN
- TALUS ORIF
  - POOR BONE STOCK
    - BONE GRAFT + TRANSARTICULAR PLATING
      - STRESS
        - LATERAL TRANSARTICULAR PLATING
  - NAVICULAR ORIF

MEDIAL AND LATERAL COLUMN
- CONMINUTE FRACTURE
  - MEDIAL ORIF
  - LATERAL ORIF
  - POOR BONE STOCK
    - TRANSARTICULAR PLATING
• 18 Fractures in 17 patients were included in this study. Average age was 42 years.
• Pedestrian accident was the main mechanism of injury (47% of injuries).
• 55% of cases were treated in 1 surgical time and 45% in 2 surgical times.
• Average follow up was 11.6 months
• Anatomical joint reduction was accomplished in 89% of cases.
• 61% of cases had soft tissue complications
• 22% required an arthrodesis
• 50% required a hardware removal
• The average AOFAS score was 79 points.
Conclusions

• Chopart joint injury
  – Stable conservative management
  – Stability test: X-Ray w/load*

*Validated biomechanical study for mediotarsal stability is still necessary

• Articular reconstruction with standardized surgical management.
  • Column osteosynthesis
  • Transarticular plating

• Radiological and Clinical good results at short follow-up

• Bigger series of cases and longer follow-up would be necessary to validate this management algorithm
References

• S. Rammelt · R. Grass · H. Schikore · H. Zwipp.
• Michael P. Swords, DOa,* , Matthew Schramski, Dob, Kyle Switzer, DOb, Scott Nemec, Dob.
  — Chopart Fractures and Dislocations; Foot Ankle Clin N Am 13 (2008) 679–693
• Schildhauer TA, Nork SE, Sangeorzan BJ.
• Richter M, Thermann F, Huefner T, et al.
• Richter M, Wippermann B, Krettek C, et al.