



The Leather Plating Machine Injuries Complicated Axial Fracture Dislocations of the Hand

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Introduction

Leather plating machine (LPM) has two heated plates which hydraulically compress, cut, and iron and imprint texture on leather sheets for shoes. When hand gets caught between the plates accidentally it imparts an axial compression and thermal injury with a shear component resulting in of axial fracture-dislocation of the carpus, third degree burn and acute compartment syndrome (ACS) of the hand.

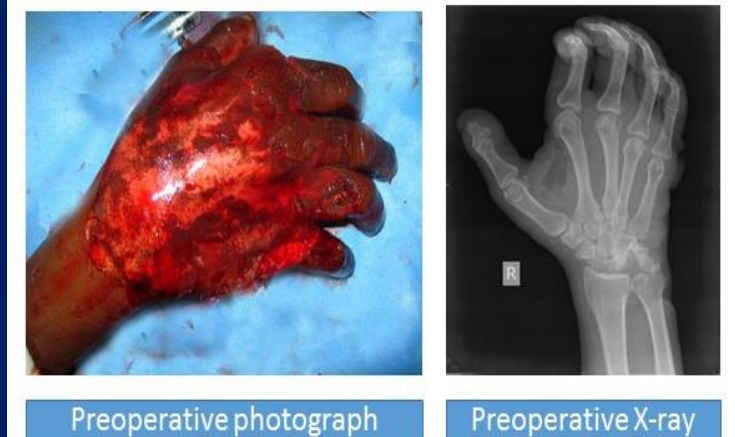
Methods

- Retrospective analysis of 9 cases from 2002-2013
- Min follow-up of 2 years
- Demographics
- Clinical presentation
- Associated injuries
- Treatment
- Outcome evaluated by DASH and Mayo wrist score.

Results

- N=9; M: F = 8:1; 3.5 R: L; Mean =30.8 yrs.
- Axial ulnar= 5; Axial ulnar & radial = 3
- Axial radial =1
- **ACS & 3rd degree burn =7.**
- Thumb web burst =8; Hypothenar burst =1.
- Ulnar nerve severance=1
- Non-viable fingers=1; Flap cover=1
- Split skin grafts=2

Figure 2: Sample case



Preoperative photograph

Preoperative X-ray

Figure 1: LPM



Outcome

PARAMETER	WITH ACS (n=7)	WITHOUT ACS (n=2)
DASH SCORE	40.43	63
MAYOWRIST SCORE	66.4	80
Total Active Motion	108.74°	225°



Postoperative X-ray

Two year follow up

Conclusion

The leather plating machine injury to hand produces unique pattern of injury characterized by the terrible triad of axial fracture-dislocation of the wrist, third degree burn and acute compartment syndrome of the hand. The outcome of this injury was uniformly poor. As an effect of the study the leather factories adapted stringent hand friendly practice.