

Abstract

The purpose of this case study is to review the management of a traumatic degloving injuries to the foot specifically the hallux. In this case, a 23-year-old Asian-Hispanic American male presented to the hospital via EMS trauma transport for evaluation status post motor vehicle versus motorcycle accident. The patient was a motorcyclist that was hit at low speed while stopped on his motorcycle. The patient experienced a near complete amputation/degloving of his left hallux requiring immediate irrigation and primary closure of the injury site by orthopedics due to the patient suffering poly-trauma with injuries to the upper extremity as well. Podiatry was formally consulted after the initial operative procedure. Utilization of fundamental podiatric wound care principles and management to the extremity. Six months after the initial injury, the patient only experienced auto-amputation the distal aspect of the left hallux allowing for salvage of the first ray. This allowed for superior outcome of this young ambulatory patient as opposed to total amputation or partial first ray surgery.

The Patient

26 year old Asian-American Male:

- Patient was riding a motorcycle wearing a helmet and jacket while traveling at a speed of 30 to 50 mph. Patient was hit by a car that ran a traffic light causing him to be thrown over the car from his motorcycle landing on the ground.
- Resulting injuries was a partial (near complete) amputation/gloving of his left great toe, deep laceration of the left thigh, hand and elbow (exposed hardware) .
- Negative Loss of Consciousness
- Received Tetanus Booster, Ancef and Gentamicin in the trauma bay
- Past History:**
 - Hypothyroidism
 - Had 2 prior motorcycle accidents and had a R elbow ORIF.
 - Current Tobacco Smoker
- Allergies:**
 - NKDA

Physical Examination

- **General Appearance:** Awake, Alert and Oriented x 3
- **Cardiovascular:** Pedal pulses palpable to bilateral lower extremities (DP/PT +2/4). Pedal edema (L>R), decreased capillary refill time to the left forefoot with no capillary refill to the left hallux distal tuft dusky in appearance, left 2nd toe with brisk capillary refill
- **Neurological:** Decreased sensation of the left hallux about medial plantar and deep peroneal nerve distribution
- **Musculoskeletal/ Derm:** Left great toe: Near circumferential laceration of the great to at the IP joint with macerated muscle, foot compartments soft RUE: laceration over elbow with exposed hardware, Left UE and Right LE: no pain or deformity. Decreased range of motion (left foot), edema (left foot). Left foot cool to touch
- **Radiographic Findings:** multiple fractures Left foot: distal phalanx, 2nd middle phalanx, 4th distal and middle phalanx

Labs

15.8				
14.1	272	142	107	14
47.6		3.7	24	0.92
				108

Clinical Presentation



Figure 1A & 1B: Left Foot Injury with Traumatic Degloving of the Hallux

Radiographic Imaging



Figure 2A & 2B: Plain Film Radiographs of Left Foot

Preoperative Workup

- Patient presented to AHMED on September 13, 2016.
- Plain Film x-rays were ordered no signs of soft tissue emphysema presented.
- Critical tibio-peroneal trunk stenosis repaired with balloon angioplasty, widely patent anterior tibial artery by Interventional Radiology on September 15, 2016.
- Debridement and Graft Application procedure was performed September 19, 2016.

Post Operative Course



Figure 3B: 1 day after initial injury



Figure 3B: 4.5 months after initial injury

Follow-up



Figure 4: Complete Healed 6 months after Initial Trauma

Conclusion

Proper initial management during the golden hour of traumatic injuries allowed for a greater outcome in this patient. Patient was able to salvage majority of the left hallux after experiencing a traumatic degloving/amputation injury to the hallux. Though the entirety of the hallux was not salvage in this particular case. Patient eventually underwent partial auto-amputation of the hallux as opposed to total hallux or partial first ray amputation. Leading to a greater outcome for this young healthy ambulatory patient. This was possible due to proper operative management and fundamental wound care skills.