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**Dilemmas for the management of a severely crushed leg in a polytrauma patient: a case report**

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**Introduction and importance:** The mangled extremity in young female is rare compared to young male patients and it poses a dilemma on decision making during the treatment, although lifesaving procedure is the main goal for management of severely injured lower extremities.

**Case presentation:** We report a polytrauma case of 22 years female with severely injured right leg, injury to the head and pelvic few minutes prior to admission after being knocked by a fast motorbike while she was running along the road. She had shock and mild traumatic brain injury and past medical history was unremarkable with known allergy to food and medication.

On clinical evaluation: She was confused with Glasgow coma score of 14/15 (E4V4M6), paper white, respiratory rate (26 bpm), hypotensive (Blood pressure, 75/45 mmHg), Tachycardia (Pulse rate, 122 bpm), capillary refill of >2 seconds and She had a severely crushed right leg with mangled extremity severity score (MESS) 8. Leg X-ray revealed segmental-comminuted fracture tibia-fibula with pelvic fractures. Normal chest X-ray and brain CT scan with negative extended Assessment with Sonography for Trauma. She had low hemoglobin (8 g/dl), low hematocrit (22%), has hyponatremia (132.35 mmol/L) with serum potassium (3.61 mmol/L) Serum creatinine (79 μmol/L) blood group B Rhesus positive. On management: She was managed urgently with multidisciplinary team; controlled bleeding, resuscitated with crystallide solution and blood transfusion while monitoring the patient closely following Advanced Trauma Life Support guideline. She was given Tetanus toxoid, TT 0.5 mL, antibiotics and analgesia. The patient was sent in theatre immediately after being stable for emergency examination under anesthesia and limb salvage by

doing surgical debridement and stabilization of the bones with external fixation following damage control orthopedic or otherwise as per findings. While in theater under general anesthesia, the gauze and the tourniquet were removed with caution of bleeding. After a proper assessment we found that the vessels, nerves, muscles and bones were severely crushed and agreed to do Guillotine amputation. She was admitted in the intensive care unit for close monitoring after surgery and received two units of packed red blood cells, one unit of FFP, and one unit of platelet. We did second look after 48hrs and dressed with the Vaseline gauze, dry gauze and covered with crepe bandage. She developed redundant stump and underwent standard stump revision and immediately post-operative prosthetics then was subjected on physiotherapy and later on the prosthesis was made and currently is walking with her prosthesis normally and despite amputation she is psychologically stable and she is back to her

occupation as a police officer.

**Outcome:** She was scheduled to attend clinic on 2nd week, 3-month, 6-month, 1 year, and 2 years, with overall good outcome.

**Discussion:** The uniqueness of our case is due to the highly life threatening severely injured leg of a young female patient and the dilemma on decision making. The management is challenging especially in low- and middle-income countries where there is a scarcity of vascular surgeons with lack of technologies. There is no uniformity in management of mangled extremities, in our case we did amputation and patient progressed well after 2 years of follow-up.

**Conclusion:** There is no clear-cut line for limb salvage and amputation, the management is more individualized and not uniform to all patients with mangled lower limb extremities. Saving life is more valuable than saving the limb for the severely life-threatening injured leg, although careful evaluation and involvement of the multidisciplinary team is very important for the better outcome and patient satisfaction before decision of whether to amputate or to salvage the limb.

**Keywords:** amputation, case report, crushed injury, limb salvage, mangled extremity.