

Open Tibia Fracture Management at a National Referral Center in Uganda – Feasibility of an Open Fracture Management Protocol

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Purpose

The incidence of open fractures in low-income regions, such as Uganda, is not known but is suspected to be high. Management of open fractures in these regions is a complicated problem. Efforts focusing on defining the problem and identifying sources of limitations in care are needed to help improve management of open fractures and reduce the associated morbidity and mortality. This is a feasibility study in preparation for a larger prospective study looking at the application of an open fracture management protocol in a low resource setting. The purpose of the study was to assess the current management of open fractures of the tibia at a tertiary hospital in Uganda and determine the feasibility of applying an open fracture management protocol in this setting.

Methods

Prospective data was collected on open tibia fractures at Mulago Hospital in Kampala, Uganda. Patients presenting with an open tibia fracture between February 19th and March 2nd, 2012 were identified on daily ward admission rounds. Mechanism of injury, time from injury to presentation at Mulago hospital, time to initial surgical debridement, and type of fracture fixation were recorded.

Results

Seventeen open tibia fractures presented to Mulago Hospital during the study period. There were 15 males and 2 females with an average age of 34 years. Road traffic accidents (RTA) were responsible for 82% of injuries, of which 64% involved a boda boda. Eighty-two percent of fractures presented within 24 hours of injury, two within 48 hours and one at greater than 72 hours. Using the Gustillo classification, there were four type I, ten type II, and three type III fractures. Surgical debridement was done within 24 hours of injury in 35% of fractures presenting within 24 hours. Access to operating facilities resulted in delay of surgical debridement in 43% of fractures. Six fractures were definitively managed with a plaster cast, nine with external fixation, and one with an above knee amputation. Two patients were awaiting definitive fracture fixation at the time of final data collection.

Conclusion

The incidence of open tibia fractures at Mulago Hospital in Kampala, Uganda is very high. The majority of these injuries occur in young men due to RTA involving boda bodas. Most patients presented within 24 hours of injury. Delay to initial surgical debridement due to inadequate availability and inefficient use of operating facilities was a recurrent problem. Absence of electronic patient records and poor paper documentation makes acquisition of data and patient follow up difficult. A larger prospective study looking at outcomes of an open fracture management protocol in a low resource setting would require a fulltime local research coordinator to identify and follow patients adequately.