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Mhembelo, Kisusi David

University of Dar es Salaam

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Management of open tibial shaft fractures at Muhimbili Orthopaedic Institute: Clinical outcome after surgical debridement and use of the Dispofix external fixator

Mhembelo, Kisusi David

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Management of open tibial shaft fractures at MOI Clinical outcome after surgical debridement and use of the Dispofix external fixator. Objectives: To determine the clinical outcome of the management of open tibial shaft fractures at MOI after surgical debridement and use of the Dispofix external fixator. Materials and Methods: this was a descriptive prospective study conducted between October 2004 to December 2005. It involved patients with open tibial shaft fractures treated by surgical debridement and Dispofix external fixation. Patients were evaluated on the day of admission, followed up at the clinic and when or if readmitted were possible complications were documented and treated. Results: During this study a total 72 patients with open tibial shaft fractures were operated and enrolled for the study. The incidence of open tibial shaft fractures at MOI was found to be 2.7%. Of these 72 patients evaluated, 60(83.3%) were males and 12(16.7%) were females with a male to female ratio of 5:1. The majority of patients were in the age range of 21-40 years (75%). In this study road traffic accidents were the most common cause of injury in 70.8%, fall from height in 13.9%, assaults in 12.5%, bullet (missile) and sports injuries in 1.4% each. Grade III open tibial shaft fractures were the most common in 52.8%, grade II in 31.9% and lastly grade I in 15.3%. These fractures united within an average time of 115 days. Of these 72 patients studied, 42(58.3%) patients had delayed union, 40(55.5%) patients had pin tract infection, 15 (20.8%) had wound infection, 15(20.8%) patients had malunion, 11(15.3%) patients had shortening 799.75) patients had nonunion, 4(5.6%) had joint stiffness, 292.8%) patients had a delayed amputation done and 2(2.8%) patients developed chronic osteomyelitis. The time to reintegration into their previous work ranged from 73 to 310 days, with a mean of 136 days. No patient following surgical debridement and Dispofix external fixation died during follow up. Open tibial shaft fractures still remains a treatment challenge affecting mainly the productive young age group who were involved in RTA chiefly as pedestrians. these fractures were predominantly OF grade III type with a high complication rate. The Dispofix external fixator has shown encouraging results in the management of open tibial shaft fractures in terms of reducing the complication rate. The Dispofix external fixator should be recommended to stabilize open tibial shaft fractures

especially grade II and III after surgical debridement. It is highly cost effective, hence suitable for use in third world countries. Emphasis should be made on the role of serial debridement and copious irrigation to reduce the wound infection rate. Antibiotics should not be a substitute of inadequate debridement.