

Open Ankle Fractures in the Elderly: A Multicenter Study

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Purpose: In the elderly population, ankle fractures are an increasingly common injury. Incidence of ankle fractures is reported to be up to 184/100,000 per year with 20% to 30% occurring in the elderly. The purpose of the present study is to examine open ankle fractures as a predictor of overall poor health and high mortality rates in the elderly population.

Methods: We performed a retrospective multicenter study reviewing all patients over age 60 years who sustained an open ankle fracture since January 1, 2004. The trauma database from each institution was searched for ankle fracture ICD-9 codes. Charts were reviewed for patient demographics, AO-OTA fracture classification, mechanism of injury, wound description, body mass index (BMI), medical comorbidities, treatment, outcomes, and mortality. The data were analyzed utilizing descriptive statistics.

Results: A total of 182 patients met inclusion criteria. Of the 182 patients, 63.19% were female and 36.81% male, the average age was 73 ± 9 years, 55.74% were right-sided and 44.26% left-sided, and had an average BMI of 31.2 ± 8.5 . 25.82% were involved in a polytrauma and 71.58% of patients sustained a dislocation. The most common mechanism of injury was a ground level fall (46.7%). The majority of patients (80.12%) were a Gustilo Anderson classification type 2 (42.69%) or 3A (37.43%). Bimalleolar fracture represented 45.31% of the injuries, followed by trimalleolar at 22.4%. The average number of medical comorbidities per patient was 3.67 (range, 0-10). The average number of total surgical procedures required was 2.07 (range, 1-9). Complications included: 11.67% deep infection rate, 5.0% nonunion rate, 11.67% amputation rate, 1.11% deep vein thrombosis rate, and 0.56% pulmonary embolism rate. The 12-month mortality rate was 12.71% and overall study mortality rate was 24.86%. The average patient follow-up was 15 ± 19 months.

Conclusion: Open ankle fractures in the elderly are associated with poor outcomes. This is evidenced by the high reoperation, conversion to amputation, and mortality rates.