Obesity Predicts Lower Risk of Wound Complications following Open Reduction and Internal Fixation of Ankle Fractures

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Introduction/Purpose: Ankle fractures are among the most common injuries treated by Orthopaedic Surgeons. Complications following surgical treatment of ankle fractures have been well described, however less is known about the risk factors for postoperative wound complications specifically. The purpose of the present study was to evaluate the incidence of wound complications following open reduction and internal fixation of ankle fractures in obese and non-obese patients.

Methods: We retrospectively identified 127 consecutive patients who underwent open reduction and internal fixation for an isolated, closed ankle fracture from 2008-2012. The age, sex, height, weight, diabetes status, and tobacco use of each patient were recorded. Time from injury to surgical fixation, use of external fixation, presence of initial dislocation, energy of mechanism, and injury pattern were also recorded. Patients' records were reviewed to identify any postoperative wound complications. Complications were categorized as major or minor based on need for subsequent surgical intervention. Complication rates were compared between groups using the chi square test, and significant results were followed up with calculation of odds ratios and 95% confidence intervals using multivariate logistic regression.

Results: The overall rate of wound complication was 18.9% (24/127), consisting of 6 major and 18 minor complications. The rate of wound complication of any type was significantly lower in obese patients at 11.7% (7/60) compared to 25.4% (17/67) in non-obese patients (P = 0.049). Obesity was associated with a significantly lower risk of developing a wound complication (OR 0.267, 95% CI 0.087 - 0.822), even when controlling for age, sex, diabetes status, tobacco use, surgical delay, external fixation, and injury pattern. No other covariates were associated with an increased risk of a wound infection.

Conclusion: In the present study obese patients were less likely than non-obese patients to have a postoperative wound complication following internal fixation of an ankle fracture. Obesity may be protective against wound complications following surgical treatment of ankle fractures given the additional soft-tissue overlying the ankle.

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