

DOES TIMING OF ANKLE FIXATION AFTER ANKLE FRACTURES AFFECT RATES OF WOUND COMPLICATIONS?

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INTRODUCTION:

Ankle fractures represent approximately 9% of all fractures [1]. Early surgery for ankle fractures is desirable but operating with excessive tissue swelling can increase rates of postoperative wound complications. This study investigates the significant risk factors affecting postoperative wound complications of ankle fixation, particularly, if early fixation is associated with higher rates of wound complications.

METHODS:

This retrospective study included 80 continuous patients who underwent ankle fixation from December 2014 to May 2016 in a tertiary hospital, as identified in the inpatient medical records. Patients with polytrauma or open fractures were excluded. Univariate and multivariate logistic regression analyses were done using SPSS, analyzing timing of ankle fixation as well as other patient and operative factors.

66 patients were analyzed. 55 (83.3%) had early (< 7 days post-injury) and 11 (16.7%) had late ankle fixation.

RESULTS:

Univariate analyses showed that early fixation had significantly fewer wound complications than late fixation (5.5% vs 27.3%, p=0.022).

Other significant variables included age \geq 65 (33.3% vs 6.7%, p=0.03), smoking (30.0% vs 5.4%, p=0.014), peripheral vascular disease (50.0% vs 7.8%, p=0.041) and pre-surgical conservative treatment (21.2% vs 4.3%, p=0.032).

Multivariate analysis revealed 2 significant independent factors – age \geq 65 (p=0.005) and smoking (p=0.009).

Interestingly, pre-surgical conservative treatment was linked to higher rates of wound complications (p=0.022).

| Factors contributing to increased risk of wound complications | Increase in risk | p-value |
|---|------------------|---------|
| Early Ankle Fixation | 21.8% | 0.022 |
| Age \geq 65 | 26.6% | 0.03 |
| Smoking | 24.6% | 0.014 |
| Peripheral Vascular Disease | 42.2% | 0.041 |
| Pre-surgical Conservative Treatment | 16.9% | 0.009 |

Table 1 showing significant factors affecting wound complications post ankle fixation on univariate analysis.

DISCUSSIONS:

Our findings demonstrated that early surgery does not predispose patients to increased risk of wound complications. A likely explanation is that patients with significant ankle swelling or blistering preoperatively were already selected for delayed surgery. This resulted in a higher proportion of patients in the delayed group already having a higher risk of postoperative wound complications from the beginning.

CONCLUSION:

Findings suggest advanced age and smoking are independent risk factors for wound complications following ankle fixation. Clinical judgement is still required to determine suitability of early fixation.

REFERENCES:

1. Court-Brown CM, Caesar B. Epidemiology of adult fractures: A review. *Injury*. 2006;691-697.