ABSTRACT

TITLE OF THE STUDY: TIME TO SURGICAL DEBRIDEMENT IN OPEN LONG BONE FRACTURES OF THE LOWER LIMB AND ITS EFFECT ON UNION AND INFECTIONS – A PROSPECTIVE COHORT STUDY

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OBJECTIVES: To study the effect of time to surgical debridement on non-union, infection rates and patient quality of life in open long bone lower limb fractures.

METHODS:

182 patients with 206 open long bone lower extremity fractures were recruited in a prospective cohort study from October 20th 2015 to October 20th 2016 with a follow-up rate of 93%. The cohort was empirically divided into 2 groups (early and late) based on the time to debridement (less or more than 12 hours from injury). Non-union was evaluated at 9 months. Infection rates, additional surgeries, in-patient bills and functional outcomes in both groups were also recorded. Data was entered using Microsoft Excel 2016 and analysed using independent 2 sample t tests, chi square tests, univariate and multivariate analysis.
RESULTS:

169 patients with 198 fractures were evaluated at 9 months. The non-union and infection rates were 33.5 and 35.6% respectively. Non-union was associated with late debridement (OR 5.89: 95% CI, 1.72-20.3). There was a 6% increase in the infection risk for each hour of surgical delay (OR 1.06: 95% CI, 1.02-1.07). No significant difference was observed in additional surgeries performed and treatment costs in both groups. However, the early group had a superior functional outcome, 83.3% patients returned to work compared to 34.7% in the late group.

KEYWORDS:-

Time to debridement, Non-union, infections, open fractures, lower limb, functional outcome