Early vs Late Definitive Fixation of Pelvic Ring Fractures in Polytraumatized Patients. A Systematic Review And Meta-Analysis

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Background

The timing of definitive fixation of pelvic fractures in polytrauma patients is a controversial topic in the trauma literature. Recommendations for early definitive fixation as opposed to a damage control approach with delayed definitive fixation are currently based on the haemodynamic status and response of these critically ill patients to resuscitation, with the advantages of early fracture fixation weighed against the risks of excessive surgical burden.

Aim: Compare short-term clinical outcomes between early (EDF) vs late definitive fixation (LDF) in polytraumatized patients with pelvic ring fractures.

Methods

- PRISMA guidelines
- Databases searched: Embase, Medline, Cochrane library
- Methodological quality of studies: Newcastle Ottawa Scale
- Inclusion Criteria
  - High energy pelvic fractures in polytraumatized patients
  - Studies reporting outcomes from EDF and LDF.

Results

- Out of 869 studies, 12 met our inclusion criteria totaling 1986 patients.
- 1110 patients in EDF group vs 876 patients in LDF
- Mean Injury Severity Score of 27.6 in EDF & 26.6 in LDF group.
- Clinically and statistically LOS reduction and ARDS are in line with the current body of evidence for management of other lower extremity fractures in polytrauma patients.
- Early definitive fixation is a safe and viable option with no increased risk of complications and mortality.
- The adequacy of resuscitation and estimate of the physiologic reserve should be balanced with surgical burden.
- Further prospective validation studies are required to help stratify patients for early vs late definitive fixation.

Discussion

- Clinically and statistically LOS reduction and ARDS are in line with the current body of evidence for management of other lower extremity fractures in polytrauma patients.
- Early definitive fixation is a safe and viable option with no increased risk of complications and mortality.
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References