Reviewer’s report

Title: A feasibility study of 60 consecutive patients operated for unstable thoracic cage compared to historical controls treated in a mechanical ventilator

Version: 2 Date: 31 March 2014

Reviewer: Timothy Moore

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A feasibility study of 60 consecutive patients operated for unstable thoracic cage compared to historical controls treated in a mechanical ventilator
Hans P Granhed and David Pazooki
Journal of Trauma Management & Outcomes (Submitted: 2014-01-28)

Consecutive case series of 60 unstable thoracic cage injuries treated via operative fixation vs historical controls. Very hot topic now in trauma and dealing with the polytrauma patient.

Major Compulsory Revision:

Author needs to better define the “unstable injuries” that are being considered for operative fixation. Not sure “Fifty-six patients fulfilled the criteria of flail chest: two segmental fractures leading to a flail segment” adequately defines surgical candidacy. How many consecutive levels? Segmental fractures? Sternal fractures? Or was it a thoracic cage injury requiring mechanical ventilation? What was the indication for IM nailing?

Minor Revisions that would increase validity of study:

Historical control data very well organized. The historical controls had a greater ISS (30 vs 22) though not statistically significant. Probably with higher power may have reached statistical significance. Would comment more on this fact.

Interesting about this series was the intrathoracic work that was performed at the time of fracture stabilization. Might be responsible for how well the pts did postoperatively and possibly NOT DUE to the rib stabilization alone. Interesting question for further studies in terms of treatment groups.

The ultimate question that needs to be answered with this technology is do the benefits outweigh the risks of an additional surgery. Average/mean follow up length was not stated. There were two deaths in the treatment group likely not related to the surgical repair but there were 3 reoperations for infection (2) and hardware prominence (1). It would be helpful to have added expense figures for these 3 reoperations.

Authors also need to ascertain any conflicts of interest concerning the instrumentation and technology used.
Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests: No conflicts