
Surgical Stabilisation of Rib Fractures in Chest Wall Injury



A new study compared the effectiveness of surgical stabilisation of rib fractures (SSRF) to non-operative management in cases of severe chest wall injury.

The effectiveness of SSRF has been demonstrated in patients with clinical flail chest and respiratory failure. However, the impact of SSRF on outcomes in cases of severe chest wall injuries without clinical flail chest remains uncertain.

This study aimed to compare the outcomes of SSRF with non-operative management in severe chest wall injuries. Severe chest wall injury was defined as having a radiographic flail segment without clinical flail, ≥ 5 consecutive rib fractures, or any rib fracture with bicortical displacement. The primary outcome of the trial was the length of hospital stay. Secondary outcomes included ICU length of stay, ventilator days, opioid exposure, mortality, pneumonia incidence, tracheostomy incidence, and quality of life.

A total of 84 patients were included in the study. Forty-two patients were assigned to the usual care group, and 42 patients to the SSRF group. Baseline characteristics and the numbers of fractures per patient were similar between the two groups, including the incidences of displaced fractures and radiographic flail segments.

As per the results of the study, the SSRF group had a longer hospital length of stay compared to the usual care group. ICU length of stay and ventilator days were similar between the groups. However, the difference in hospital length of stay remained in favour of the usual care group. Subgroup analysis indicated that patients with displaced fractures were more likely to have hospital length of stay outcomes similar to the usual care group. At the 1-month follow-up, patients in the SSRF group experienced greater impairment in the mobility and self-care dimensions.

Overall, these findings show that in cases of severe chest wall injury, including those without clinical flail chest, a significant number of patients reported moderate to extreme pain and limitations in usual physical activity at one month. SSRF resulted in longer hospital length of stay without providing any improvement in quality of life by up to six months.

Source: [Annals of Surgery](#)

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Published on : Tue, 11 Jul 2023