

AB097. 226. The role of prophylactic negative pressure dressing after laparotomy: results from a randomised controlled trial

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Background: Laparotomies are associated with high rates of morbidity, of which surgical site infections (SSI) are highly prevalent. There is sparse evidence to support routine application of prophylactic negative pressure dressings to closed laparotomy wounds. A randomised controlled trial (RCT) was undertaken to assess whether prophylactic negative pressure dressings reduce the incidence of postoperative SSI after laparotomy.

Methods: An open-label RCT with 63 patients undergoing open abdominal surgery, of which 29 patients were randomised to the negative pressure dressing group and 34 patients to the standard dressing group (control arm). The

primary outcome was SSI incidence at 30-day postoperative days. Secondly, we assessed the impact negative pressure therapy had on length of hospital stay. Statistical analysis was performed as per-protocol basis using SPSS version 23.0.

Results: In the negative pressure dressing group, 72% were emergency operations while 28% were elective, compared to 65% and 35% respectively in the standard dressing group. Colorectal procedures accounted for 59% of cases included in the RCT. The incidence of SSI at 30 post-operative days in the control group was 10% compared to 11% in those having negative pressure therapy ($P=0.475$). There was no statistical difference in length of stay between the two groups ($P=0.29$).

Conclusions: The use of prophylactic use of negative pressure dressings did not significantly impact the incidence of SSI at 30-days post laparotomy or the length of stay. Its routine application remains contentious and is associated with healthcare cost implications.

Keywords: Prophylactic; negative; pressure; wound; therapy; laparotomy

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