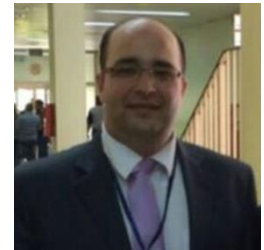


Negative pressure therapy after median sternotomy on closed incision: a randomized controlled study

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Abstract

Background: Surgical site infections (SSIs) after cardiothoracic surgery contribute significantly to post-operative morbidity, mortality, and healthcare costs. After using of the negative pressure wound therapy (NPWT) in the treatment of chronic wounds, there has been growing interest in using the technique on closed incisions after surgery to prevent potentially surgical site infections; The purpose of this randomized controlled trial was to evaluate NPWT as a prevention and therapy of superficial infection.

Methods: In this single-center, superiority designed prospective randomized controlled trial, patients after cardiac surgery performed via median sternotomy (n =528) were after stratification according to the marker body mass index (BMI ≥ 35) randomized to receive either a PICO dressing (PD) (Smith & Nephew, Netherlands) (n =56/193) or a standard dry dressing (SDD) (n =66/213) over the incision immediately at the conclusion of surgery.

Results: The study showed no significant difference in the number of infections after operation in Patients with BMI ≥ 35 and BMI <35 (p=0.622, 0.2926). Nevertheless, there was significant difference in the progress of SSIs in Patients with BMI <35. In the PD group, 57.7% of infections remained superficial and 42.3% emerged a deep infection. Compared with SDD group, 32.5% of infections remained superficial and 67.5% emerged a deep infection (p=0.0432).

Conclusion: These results suggest that the use of PD compared with SDD did not improve the rate of SSIs in 30 days, but PD treatment reduced the rate of deep type of SSIs, so there is a shift towards more superficial and thus less feared and also less costly SSIs. It should be a standard to use the PD in patients with BMI <35 suffering from superficial infection in the surgical wound after median sternotomy.



Biography:

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Speaker Publications:

1. "The Transcranial Doppler Sonography for Optimal Monitoring and Optimization of Cerebral Perfusion in Aortic Arch Surgery: A Case Series."
2. "Transcranial Doppler Sonography for Optimization of Cerebral Perfusion in Aortic Arch Operation."
3. "Anastomotic leakage after surgical repair of type A aortic dissection: Incidence and consequences in midterm follow up."
4. "Anastomotic Leak after surgical Repair of Type A Aortic Dissection Prevalence and Consequences in midterm Follow up"

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