Reviewer's report

**Title:** Treatment outcomes in deep sternal wound infection after cardiac surgery; Vacuum-assisted closure versus conventional treatment

**Version:** 1  **Date:** 9 March 2012

**Reviewer:** Martin Simek

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I have read with interest work of Turkish colleagues concerning comparison of treatment strategies of DSWI after cardiac surgery.

Negative wound pressure therapy (TNPT) is newer (not novel) treatment strategy for DSWI and its superiority to conventional treatments was reported by several authors showing lower short- and long term mortality and morbidity. However, data from prospective or randomized trials are still lacking.

Despite retrospective design, I see the potency of presented manuscript being beneficial for cardio-surgical community and therefore potentially acceptable for publication:

1. Comparing groups are relatively voluminous (almost 50 cases in each groups)
2. Long-term follow up (almost 3 years)
3. Meticulous variables collection and statistical analysis

I see some essential imperfections which need major compulsory revisions:

1. The key of allocation of patients to treatment side branch (NPWT and CONV) is lacking (based on randomization/different time period/surgeon preference/patient’s eligibility? And how does it influence the bias?)

2. Description of treatment protocols is unsatisfactory (TNPT – interface dressing for mediastinum protection, level of negative pressure, handling with patients between dressing changes; CONV – type of used CONV therapy, it descriptions and sub -analysis of results of each types: closed irrigation/open packing/others

3. Primary aim of study is not clear declared – only clinical outcome and survival is declared– even you have sufficient data showing in-hospital, mid-term and mainly real long- term mortality (up to 3 years) and morbidity , this focus need to be highlighted and mentioned in aim and methods of study, not only descibed in results

4. Up-date of literature, because recent result of comparative and survival studies were already published on this issue and refinement of discussion in the light of these data is also needed


I suggest making some minor essential corrections:

1. Naming vacuum-assisted closure treatment should be changes to negative pressure wound therapy (NPWT) which generally describes type of therapy despite used VAC system from KCI for all patients

2. Improvements in abstract: in methods: proper design and aiming of study: in results: fundamental results of comparing including also their statistical importance


In conclusion I would congratulate authors to achievement of great results and long-term follow up of patients who had been affected by DSWI.

Martin Simek, MD PhD
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9-3-2012

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests