A retrospective non-randomized study on the impact of INTEGUSEAL, a preoperative microbial skin sealant, on the rate of surgical site infections after cardiac surgery

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Objectives
Surgical site infection (SSI) remains a serious potential complication after cardiac surgery. This study evaluated the impact of a cyanoacrylate microbial skin sealant (INTEGUSEAL) on the rate of SSI in cardiac surgery patients.

Methods
Between January 2006 and July 2008, 580 patients underwent cardiac surgery by a single surgeon (PMD). Standard preoperative skin preparation was performed in 280 patients (control group), and 300 patients (microbial skin sealant group) received microbial skin sealant in addition to standard preoperative preparation. Patient characteristics and preoperative and combined pre/intraoperative risk scores were evaluated. The primary study endpoint was freedom from SSI within 30 days.

Results
Both groups were established in a 15-month period. Carotid artery disease, diabetes mellitus, congestive heart failure, previous cardiac surgery, and bilateral internal mammary artery use were significantly more common in the skin sealant group. Preoperative risk scores for the development of SSI in the two groups were similar. In the skin sealant group, the combined operative risk score for SSI was significantly higher (9.8±4.0 vs. 8.7±3.7; p<0.001) nevertheless the incidence of SSI was significantly lower (2.3% vs. 6.8%; p=0.011) than in the control group.

Conclusion
Changing a surgeon's standard preoperative practice by including a microbial skin sealant pretreatment significantly reduced the rate of SSI.


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