

Pectoralis Major Turnover Versus Advancement Flap for Sternal Wound Reconstruction: A 21-Year Experience

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Background

Complicated sternal wound repair with tissue flaps is efficacious and well supported in the literature [1-4]. Our objective was to compare the efficacy of pectoralis turnover versus advancement technique for sternal wound reconstruction.

Methods

We performed a retrospective study of patients who underwent flap closure for complicated sternal wounds using the pectoralis major muscle from December 1989 to December of 2010. The correlation between operative technique (pectoralis major advancement versus pectoralis major turnover) and post-operative complications were analyzed. Post-operative complications included hematomas, wound infections, tissue necrosis, dehiscence, and need for reoperation. Pearson chi-square and logistic regression were used for analysis of data. Significance was determined by $p < 0.05$.

Results

In total, 67 patients received 91 tissue flaps. Twenty-two patients (21%) had bilateral pectoralis advancement flaps, 18 (17%) had unilateral pectoralis advancement flaps, 2 (2%) had bilateral pectoralis turnover flaps, and 25 (24%) had unilateral pectoralis turnover flaps. Eleven patients (16%) required re-operation due to complications, including recurrent wound infection, tissue necrosis, wound dehiscence, mediastinitis, and hematoma formation. Four additional patients (6%) developed minor complications treated conservatively. Patients with advancement flaps were significantly more likely to suffer complications than those with turnover flaps (32.5% vs. 3.7%, $p = 0.004$), even after controlling for the presence of hypertension, diabetes, and congestive heart failure.

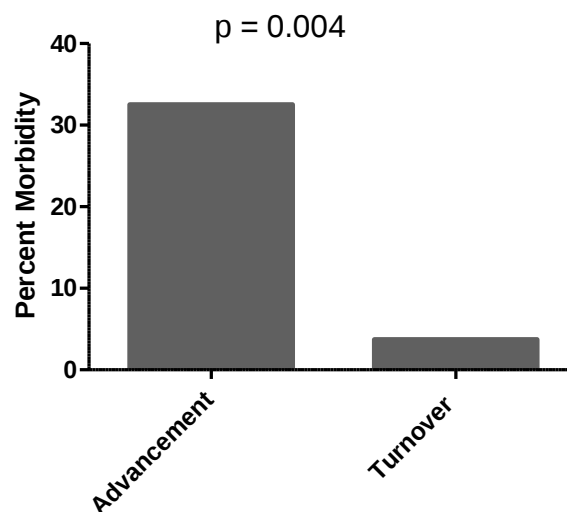


Table 1: Complication rates post pectoralis advancement vs. turnover techniques.

Conclusions

When feasible, use of the pectoralis major turnover flap offers a superior reconstructive technique for complex sternal wounds, with diminished complications compared to the pectoralis advancement flap.

Sources:

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