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## Muscle flap salvage of prosthetic dural repair

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**Objective:** A critical element in the prevention of wound and cerebrospinal fluid (CSF) infections after craniotomies is the prevention of post-procedural CSF leaks. The salvage of infected prosthetic dural material in this milieu is not adequately addressed in the literature and is the subject of this study.

**Methods:** A seven-year retrospective review of the records of Yale-New Haven Hospital to identify successful salvage strategies in patients with CSF leaks refractory to non-invasive measures. Twenty data points were collected including original diagnosis, nature of the procedure, presence of dural graft, definitive treatment of the leak, culture results, pre- and post-operative antibiotics.

**Results:** Thirteen patients experienced post-craniotomy CSF leak that required surgical intervention for control. The most common cause of original craniotomy (54% of patients) was for oncologic etiology, followed by ruptured aneurysms or hemorrhage in 31%. 76% of patients' leaks involved the posterior skull base and a trapezius muscle flap was used in 38% of cases. In all patients with bovine pericardial graft (10/13), this non-autologous graft was left in place and was not removed. CSF drainage procedures were employed in most patients (10/13) around the time of definitive repair. Positive bacterial growth of Gram positive organisms on cultures was found in 76% of cases. The most frequent offenders were *S. aureus* (5/13), coagulase-negative Staphylococcal species (2/13), and methicillin-resistant *S. aureus* (2/13). Vancomycin was administered in all cases pre-operatively. All 13 patients who underwent open surgery for CSF leak had complete resolution of the leak without need for additional reconstructive surgical intervention.

**Conclusion:** The success of our treatment strategy suggests that this comprehensive method of treating CSF leaks in conjunction with the salvage of bovine pericardial dural grafts may be a viable clinical option.

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