

Effective use of Biobrane as a temporary wound dressing prior to definitive split-skin graft in the treatment of severe burn injury

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Abstract

Aims: To report on the use of Biobrane, a synthetic skin substitute, as a temporary wound cover in patients with severe burn injury. In particular we wished to examine the role of Biobrane in maintaining a healthy wound bed following surgical excision and identify factors associated with regrafting.

Methods: A retrospective case series review was performed on patients with severe burns ($\geq 20\%$ TBSA), admitted to the Victorian Adult Burns Service, in Melbourne, from January 2009 to June 2012. Logistic regression analysis was performed to identify factors associated with regrafting.

Results: Out of 58 patients with median %TBSA burn of 30%, 22 patients (37.9%) required regrafting of at least one area previously treated with Biobrane and split-skin graft. On univariate analysis, need for regrafting was significantly associated with increasing %TBSA (OR 1.04, 95% CI: 1.01-1.08; $p=0.02$); and after multivariate analysis to adjust for this effect, hospital LOS (OR 1.04, 95% CI: 1.02-1.07; $p=0.001$); total operative time (OR 1.16, 95% CI: 1.06-1.28; $p=0.002$) and total number of surgeries (OR 1.69, 95% CI: 1.27-2.26, $p<0.001$) remained significantly associated with regrafting. Age, gender, time to surgical debridement and Biobrane application, and anatomical region were not found to be associated with regraft.

Conclusion: At our institution, Biobrane has emerged as an alternative option to maintain a healthy wound bed after burn excision and prior to grafting. Our small number of extensive graft failures, small areas of regrafting and low infection rate following Biobrane application reflects our current experience with Biobrane.

Key Words

Biobrane, severe burn, temporary wound dressing, regraft

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