ABSTRACT NO. 41

ABDOMINAL WALL REPAIR USING HUMAN ACELLULAR DERMAL MATRIX: A FOLLOW-UP STUDY

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BACKGROUND: Reconstruction of the abdominal wall in patients after emergency surgery with significant loss of abdominal domain is challenging. Biologic materials have been used increasingly in the management of these patients; however there is sparse literature on long-term outcomes. We have previously reported our preliminary experience using human acellular dermal matrix (ADM) for abdominal wall closure in the emergency setting. In this study, our objective was to review the management, complications, and longer-term outcomes of abdominal wall reconstruction (AWR) using ADM in a large surgical cohort.

METHODS: Retrospective chart review was performed of consecutive patients with AWR using ADM. Demographic data, comorbidities, surgical management, wound management, complications, and long-term outcomes were collected. Student t-tests and Chi Square were used for analyses.

RESULTS: From 2004-2007, 68 patients underwent AWR using ADM. The mean age was 61 years. The most common indication was wound dehiscence with necrotic/infected fascia (n = 19, 28%). Definitive skin closure was achieved in 75% of the cases via primary skin closure (n = 26), secondary intention (n = 17), or application of skin graft (n = 15). The average time to non-primary skin closure was 5.7 $\pm$ 0.7 months. There were 36 closure-related complications, including 12 (15.6%) wound infections, 5 (6.5%) graft infections, 4 (5.2%) graft dehiscences, 4 (5.2%) enterocutaneous fistulas, and 1 (1.3%) evisceration. 30-day mortality was 4% (n = 3). Over a median 13 month follow-up period (0.5-39 months), the recurrence rate was 28%.

CONCLUSION: Our results demonstrate that ADM continues to be safe in AWR. Over a longer follow-up period, ADM had similar graft infection and hernia recurrence rates as compared to our preliminary experience. However, these relatively high graft infection and hernia recurrence rates mandate a continued search for improved management of the biologic graft and for alternative biologic materials to improve outcomes in these complicated patients.