

11. 3:50pm Friday, November 14, 2008

### **OUTCOMES OF RECONSTRUCTING COMPLEX ABDOMINAL WALL HERNIAS USING ACELLULAR HUMAN DERMAL MATRIX**

Hsinchen JL, Deveney C, Martindale R  
Oregon Health & Sciences University, Portland, OR

**Background:** Acellular human dermis (AHD) has mechanical properties of a mesh for complex abdominal wall reconstructions and physiologic properties that allow more resistance to infection in contaminated fields. Therefore, we started regularly using AHD in our complex abdominal wall reconstructions at Oregon Health and Science University (OHSU) in 2004. The study's purpose was to determine which patient and technical factors affected our recurrence rate.

**Methods:** We conducted a retrospective review of 108 abdominal wall reconstructions using AHD over an 18 month period. Patient demographics, pre-operative risk factors, peri-operative protocols, surgical techniques, post-operative complications, and follow-up durations were recorded and analyzed.

**Results:** Fifty percent were female patients. The average age was 56 with an average BMI of 35. Thirty percent were currently smoking at the time of repair and 23% had diabetes. Sixty-one percent of our patients had an ASA score of 3 and 50% of the operative field had some degree of contamination. The indication for operation in half of our patients was to reconstruct a previously failed hernia repair. Our recurrence rate was 30.6%. The significant factors that affected our recurrence rate was female gender ( $p = 0.03$ ), reconstructing a failed prior repair ( $p = 0.034$ ), and BMI ( $p = 0.001$ ). An underlay mesh placement trended to a lower recurrence rate ( $p = 0.068$ ). Age, smoking, diabetes, field contamination, and ASA score did not affect our recurrence rate. Average follow up time was 6 months.

**Conclusion:** Three patient factors contributed significantly to our recurrence rate: gender, BMI, and repairing a recurrent hernia. Placing the matrix as an underlay appears to decrease recurrence rates. Long term follow-up is needed to further determine durability of hernia repairs with AHD. AHD offers a viable option with acceptable morbidity in complex abdominal wall reconstructions in high risk patient populations.