

ACD vs. No ACD: An Analysis of 320 Patients and 500 Breasts

The use of human acellular dermis (ACD or Alloderm®) was introduced into the practice of breast reconstruction to provide for thicker soft tissue coverage of the lower pole, more rapid expansion, and enhanced definition of the infra-mammary fold. Recently, concerns have risen about a higher incidence of seroma and tissue expander (TE) loss with the use of ACD.

The first author reviewed the experience from 2001-2010 in prosthetic tissue expansion breast reconstruction examining the variables of: volume of expansion, frequency/duration of expansion process, second-stage implant placement, patient risk factors of BMI, diabetes, smoking, radiation, chemotherapy, and outcomes of seroma, skin necrosis, infection, and expander/implant loss. Only immediate reconstruction cases were included.

A total of 322 patients and 489 breasts were included. A total of 208 patients and 312 breasts were reconstructed with ACD and 114 patients and 177 breasts had no ACD. The seroma rate was 30.4% in the ACD breasts and 15.3% in the no ACD ($p = < 0.01$) TE loss in irradiated breasts reconstructed with ACD was 41% vs. 13.2% in irradiated breasts without ACD ($p = < 0.05$).

Conclusion:

The incidence of seroma in ACD reconstructed breasts was dramatically (and statistically significant) increased in comparison to non-ACD breasts *yet*, the rate of TE loss was only marginally increased (9.9% vs. 7.9%). When analyzed by loss vs. no loss, this difference persisted, ie, a statistically significant greater seroma incidence was seen in the ACD group whether the TE was lost or not. Radiated breasts were a statistically significant risk factor in the presence of ACD, but were not a risk factor in absence of ACD. Obese patients, but not smoking or DM, were more likely to sustain tissue expander loss, although the numbers for the latter were relatively small. These findings have implications for treatment of breast reconstruction patients.

Eric D. Wang, et al., "Acellular Dermal Matrix in Tissue Expander Breast Reconstruction Predicts Increased Infection and Seroma in a Multivariate Regression Model." (Poster session). (Oct. 2010); 126(4):111.