Clinical Outcomes after Hematoma Development: A Study of over 600 Tissue Expander Breast Reconstructions

Presenter:	Kailash Kapadia, MD
Co-Authors:	Hunter Rogoff, BS, Jocellie E. Marquez, MD, Kanad Ghosh, BA, Christopher Jou, BS, Phoebe McAuliffe, BA, Sourish Rathi, BE, Kaitlin Monroig, BA, Christopher Medrano, BA, William Marmor, BS, Austin Ferrier, BS, Gabriel M Klein, MD, Tara L. Huston, MD, FACS, Jason C. Ganz, MD, Alexander B. Dagum, MD, Sami U. Khan, MD, Duc T. Bui, MD
Affiliation:	Rutgers-New Jersey Medical School, Newark, NJ

Background: Hematomas following tissue expander immediate breast reconstruction (TE-IBR) pose a significant challenge during the recovery period. In this study, we aim to evaluate whether hematoma formation leads to subsequent complications and how management can impact final reconstructive goals.

Methods: A single-institution retrospective review of TE-IBRs from 2001 to 2018 was performed utilizing an established breast reconstruction database. Demographics, medications, comorbidities and complications were identified. Implant loss was defined as removal of the tissue expander/implant without immediate reimplantation during that operation. Hematoma size, management, transfusion requirement, reoperations, and final outcome were recorded. Reconstructive failure was defined as an implant loss that was not replaced with another implant or required secondary autologous reconstruction.

Results: 627 TE-IBR patients were analyzed. Post-operative hematoma (Group 1) occurred in 4.1% (n=26) of TE-IBRs and did not develop in 95.9% (Group 2: n=601). Group 2 had a higher mean BMI (24.5 vs. **27.3**, ***p=0.018***); however, there were no significant differences in smoking status, pre-/post-operative radiation/chemotherapy, or other comorbidities. Group 1 was found to have increased rates of implant loss (**15.4%** vs. 3.7%, ***p=0.0033***) and reconstructive failure (**11.5%** vs 2.8%, ***p=0.0133***) compared to Group 2.

69.2% (n=18) of hematomas underwent surgical intervention (Group 1a) compared to 30.8% (n=8) that were clinically managed (Group 1b). Group 1a had statistically significant lower rates of subsequent complications (**22.2%** vs. 62.5%, ***p=0.046***) and reoperations (**5.5%** vs. 27.5%, ***p=0.037***) than Group 1b, respectively.

Lastly, 23.1% (n=6) of patients who developed a hematoma were on home antithrombotics (Group 1c) compared to 76.9% (n=20) no- antithrombotics (Group 1d). There were statistically significant differences in transfusion rates (**50%** vs. 0%, ***p=0.001***) between Groups 1c and 1d, respectively. Differences in hematoma

volume (330 mL vs. 169.33 mL, *p=0.078*) and reconstructive failure (33.3% vs. 5%, *p=0.057*) approached significance between both groups.

Conclusions: Hematoma after TE-IBR should be monitored closely, as it may play a role in jeopardizing reconstruction success. Patients on home antithrombotic medication may be at increased risk for larger volume hematomas and reconstruction failure. Plastic surgeons should consider aggressive surgical evacuation of post-operative TE-IBR hematomas to reduce subsequent complications and reoperations thus optimizing reconstructive outcomes.