

Evaluating 90-Day Readmissions Rates and Clinical Outcomes in Breast Reconstruction Utilizing a National Database

Presenter: Jocellie E. Marquez, MD

Co-Authors: Aatman Makadia, BE; Aaron Zlatopolsky, BA; Wei Hou, PhD;
Janos Hajagos, PhD; Sami U. Khan, MD

Affiliation: Department of Surgery, Stony Brook University Hospital

BACKGROUND:

The purpose of this study is to evaluate differences in outcomes between various types of breast reconstruction including tissue expander (TE) and autologous breast reconstruction (ABR), up to 90 days post-operatively.

METHODS:

A retrospective review using Cerner HealthFacts database was performed using ICD-9 codes between 2000-2017. Patients were stratified based on procedure type including TE only, concurrent TE and latissimus dorsi (TE+LD), transverse rectus abdominis musculocutaneous (TRAM), deep inferior epigastric perforator (DIEP), superficial inferior epigastric artery (SIEA) and gluteal artery perforator (GAP) techniques. Surgical complications and hospital readmissions were estimated using odds ratio (OR) and 95% confidence interval (CI). Data was analyzed up to 90 days.

RESULTS:

9,802 patients were included in our analysis: 7,434 TEs and 2,368 ABRs. Patients were organized into categories based on reconstruction type: Group 1: TE only, Group 2: TE+LD, Group 3: TRAM, DIEP, SIEA and GAP flaps. Compared to Groups 1 (OR 0.63, $p<0.0001$) and 2 (OR 0.65, $p=0.007$), Group 3 was more likely to have 30-day readmissions following surgery. There was no difference in readmission rates between 31-90 days postoperative.

Similar trends were seen in regard to complications. Patients in Group 3 were more likely to develop hematomas (OR 0.46, $p<0.0001$), bacterial infections (OR 0.56, $p<0.002$), cardiac dysrhythmias (OR 0.60, $p<0.0003$), medical complications (OR 0.39, $p<0.01$), fat necrosis (OR 0.27, $p<0.0001$), overall wound complications (OR 0.30-0.56, all $p<0.0001$) and any complication (OR 0.50, $p<0.0001$) compared to Group 1, within 90 days. Group 3 was also more likely to have hematoma/hemorrhage (OR 0.55, $p<0.03$), fat necrosis (OR 0.25, $p<0.002$), overall wound complications (OR 0.08-0.35, all $p<0.04$) and any complication (OR 0.49, $p<0.0001$) compared to Group 2. There was no difference in complications between Groups 1 and 2.

Further analysis showed that free TRAM, DIEP, SIEA and GAP flaps were more susceptible to developing a hematoma (OR 0.42, **p=0.05**) compared to pedicled TRAM flap technique.

CONCLUSIONS:

TE only and TE+LD breast reconstructions had lower incidence of early complications compared to other types of reconstruction methods in this study. TRAM, DIEP, SIEA and GAP flaps are at a higher risk for readmission and significant complications up 90 days as compared to TE only and LD+TE. Comparing the autologous tissue breast reconstruction groups, free flaps demonstrate an increased risk of developing hematomas as to compared to pedicled flaps. There was no difference in outcomes and readmissions between TE only and TE+LD breast reconstruction.