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QS26

NSQIP for Monitoring Outcomes after Implant-Based Breast Reconstruction: is it Enough?

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PURPOSE: Implant based breast reconstruction (IBR) accounts for 70% of post-mastectomy breast reconstructions in the United States. Improving the quality of surgical care in IBR patients through accurate measurements of outcomes is necessary. The purpose of this study is to compare data from the American College of Surgeons National Surgical Quality Improvement Program (ACS NSQIP) with our institution’s electronic health records database.

METHODS: Data was collected and recorded for all patients undergoing IBR at our institution from 2015 to 2017. The data was completely identified and compared with our institutional NSQIP database for demographics and complications.

RESULTS: The electronic health records data search identified 768 IBR patients in three years and NSQIP reported on 229 (30%) patients. Demographics were reported similarly among the 2 databases. Rates of implant infections (6.6% Vs. 1.8%; p=0.003) and wound dehiscence (4.3% Vs. 0.4%; p=0.003) were not reported similarly between our database and NSQIP. However, the rates of hematoma (2.3% Vs. 1.8%) and skin flap necrosis (2.9% Vs. 1.8%) were comparable between the two databases. In our database, 35% of all complications presented after 30 days of surgery.

CONCLUSIONS: Databases built on partial sampling, such as the NSQIP, may be useful for demographic analyses, but fall short of providing data for complications following IBR, such as infections and wound dehiscence. These results highlight the utility and importance of complete databases. National comparisons of clinical outcomes for implant-based breast reconstruction should be interpreted with caution when using partial databases.

QS27

Alloplastic Facial Implants: A Systematic Review Analyzing Outcomes and Uses in Aesthetic and Reconstructive Facial Surgery

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PURPOSE: Alloplastic materials in facial surgery have been used successfully for various applications in the reconstructive restoration or aesthetic augmentation of the facial skeleton. Among its most popular uses are repairs of the orbital floor, malar augmentation, and auricular reconstruction in the setting of traumatic injury or congenital microtia. The objective of this study was to conduct a comprehensive systematic review of alloplastic implant materials utilized in the face stratified by anatomical distribution, indication, specific material used, and respective outcomes.

METHODS: A comprehensive systematic review of published literature on alloplastic facial implant data was conducted utilizing Medline/PubMed database without timeframe limitations. Articles were stratified by (1) anatomic localization in the face, including the zygoma, nose, mandible, orbit, frontal bone, maxilla, and glabella, as well as (2) indication for use (aesthetic vs reconstructive). All demographics, post-operative complications data, and reported cosmetic outcomes were recorded. Results were considered statistically significant at p < 0.05.

RESULTS: A total of 23 case series’ and 32 isolated case reports were identified to meet the inclusion criteria. From the case series’ data, 2100 patients were included. Overall, polytetrafluoroethylene implants were associated with a
significantly higher risk of developing infection (3.0%) and ultimate need for explantation (6.0%) compared to all other implant types analyzed. Methylmethacrylate implants were associated with the highest rate of poor cosmetic outcomes reported (5.20%), however this value did not achieve statistical significance. By location, implants placed in the malar region (2.67%) and frontal bone (2.50%) were significantly associated with higher rates of post-operative infection. Implants placed in the periorbital region were associated with a significantly higher need for explantation (8.0%) compared to all other regions.

CONCLUSION: Alloplastic facial implants are a reliable means of restoring facial symmetry and achieving facial skeletal augmentation. While many material types have been utilized and reported in the literature, it is important for plastic surgeons to understand the relative risks for each type of implant to develop postoperative complications or poor long-term cosmetic results.

QS28

Tracking Outcomes in Breast Reduction: An Analysis of 5,917 Patients Using the TOPS Database

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PURPOSE: Reduction mammaplasty is considered to be standard of care for symptomatic macromastia. The purpose of this study is to identify patient- and practice-specific variables that affect the incidence of adverse events, aiming to optimize patient safety and outcomes.

METHODS: The TOPS registry was queried for patients undergoing reduction mammaplasty from 2009 to 2016. The primary outcomes examined were the incidence of any adverse event and wound dehiscence alone in the first 30 post-operative days. Logistic regression analyses were performed to identify potential factors associated with adverse outcomes and wound dehiscence.

RESULTS: 5,917 patients were included. Logistic regression analyses identified that the following factors were associated with a significantly increased incidence of adverse events: BMI (OR=1.054, CI=1.04–1.069), duration of surgery (1.119, 1.036–1.209), tobacco use (1.946, 1.494–2.534), mild systemic ASA status (1.395, 1.134–1.715), and severe systemic ASA status (2.25, 1.55–3.267). Surgery in an office as opposed to an acute care hospital was associated with 2.5 times the odds of adverse events (2.507, 1.013–6.203), despite expected selection of patients with lower risk factors. Surgery in an ambulatory surgical center was associated with a 30% reduction in the odds of adverse events compared to an acute care hospital (0.704, 0.565–0.876). There was no significant association between adverse events and history of massive weight loss. The same factors were identified to be associated with wound dehiscence.

CONCLUSION: Adverse events associated with breast reduction were affected by both patient- and practice-specific variables. Knowledge of potential risk factors can optimize patient counseling and outcomes.

QS29

Quantitative Spine Benefits Post Breast Reduction

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Purpose: Breast hypertrophy comes with an array of signs and symptoms that range from mild to debilitating in nature including: headache, neck pain, back pain, breast pain, painful bra strap grooves, hand numbness, and shortness of breath. Breast reduction surgery is one of the most frequently performed plastic surgery procedures that has been shown to have the highest patient satisfaction and improvement in quality of life on specific satisfaction survey questionnaires. The effects of breast reduction surgery on parameters such as sagittal spinal balance, paraspinal muscle function, and physical performance have not been evaluated. The objective of this study is to evaluate the effects of reduction mammaplasty on sagittal spinal balance, paraspinal muscles, and physical function using sophisticated spine surgery imaging modality pre and post breast reduction.

METHODS: This is a prospective, observational cohort study being carried out at the Montreal General Hospital (MGH) of the McGill University Health Centre (MUHC). Twenty-five patients are being prospectively enrolled in this IRB approved study. The following methods are used