Impact of Technique and Patient Subtype on Abdominoplasty Outcomes: A 12-year Massachusetts General Hospital Experience

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Purpose
The traditional abdominoplasty continues to be one of the most common surgical procedures performed in the United States. However, variations in technique and patient population have introduced complexity into our understanding of abdominoplasty outcomes, warranting additional investigation. This study evaluates the impact of different surgical techniques and clinical patient factors on outcomes following abdominoplasty at a single institution.

Methods
Retrospective review of consecutive patients undergoing abdominoplasty from 1/2003-12/2014 at the Massachusetts General Hospital was performed. Complication rates among different patient subtypes were analyzed with an average 41 month follow-up. Statistics were performed using chi-square, Fisher's exact test, and logistic regression.

Results
Data analysis revealed 779 patients with a mean age of 43.7 years and BMI of 27 that underwent abdominoplasty.The majority were female (92.9%) and MWL was present in 34.8%. Abdominoplasty techniques utilized included traditional (59.4%), belt lipectomy (17.9%), fleur-de-lis (16.4%), umbilical float (9.2%), and mini-abdominoplasty (2.8%). Half of the study population (n=384, 49.3%) had concurrent surgical procedures. Total complications (23.0%) primarily consisted of wound and scar-related complications (15.3%). Infection (2.4%) and seroma (2.3%) rates were low. About 60% of patients received heparin chemoprophylaxis with overall thromboembolic and hematoma rates <1%. Univariate analysis revealed that MWL (p=0.04), particularly from weight loss surgery (p=0.02), fleur-de-lis (p=0.03) or belt lipectomy (p=0.05) technique, and concurrent medial thigh lift (p<0.001) all significantly increased complications.Previous scars, amount of weight loss, operative time, liposuction, and other concurrent procedures did not affect total complications. Male gender (OR 1.96, p=0.04), fleur-de-lis technique (OR 1.71, p=0.04), and medial thigh lift (OR 3.3, p<0.001) were independent risk factors for total postoperative complications on logistic regression.

Conclusions
The impact of different abdominoplasty techniques on outcomes, in the setting of a diverse patient population, has not been rigorously studied. Our unique study

demonstrates that abdominoplasty can be performed safely, with an acceptable complication profile. However, an increased risk of complications may be seen with male patients, a fleur-de-lis technique, and in combination with medial thigh lift. Understanding the impact of these clinical and surgical variables will help plastic surgeons individualize their operative and post-operative plans for each patient, while minimizing risk.