

Is it safe to combine excisional procedures with liposuction in body contouring surgery?

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Abstract

Background: Excisional procedures, including abdominoplasty, brachioplasty, thighplasty, and body lift are often combined with liposuction with the goals of minimizing cost and hospital stays while maximizing aesthetic results. The aim of this study is to evaluate postoperative complications in patients undergoing excisional surgery with or without liposuction. Risk factors for this type of combined body contouring surgery are also evaluated.

Methods: The electronic medical records of 413 patients undergoing body contouring surgery at UT Southwestern Medical Center were retrospectively reviewed. Three groups of patients were compared: liposuction only, excision only, and combined liposuction and excision surgeries. Some patients also received additional intra-abdominal, gynecologic, and breast procedures. Patient variables analyzed included age; body mass index (BMI); American Society of Anesthesiologists risk score (ASA score); Caprini score; operative time; co-morbidities (diabetes, hypertension, cardiovascular diseases, pulmonary diseases, and renal diseases); smoking status; prophylactic antibiotic use, and recent major surgery.

Results: No statistically significant differences in complication rates were found when comparing combined excision and liposuction surgeries to excision alone. Operative time was a significant risk factor for developing wound problems and overall complications. There was a trend for males and patients with higher BMI, older age (>45), and co-morbidities toward developing postoperative complications.

Conclusions: Combining excisional body contouring procedures with liposuction does not increase overall complication rates in this cohort of patients. Plastic surgeons should balance the number of combined procedures with estimated operative time in order to maximize patient safety.

Introduction

There has been a dramatic increase in the number of body contouring procedures performed over the last 15 years. From 1997 to 2012, abdominoplasty, lipoplasty, and lower body lift procedures have increased by 360.3%, 77.0%, and 376.2%, respectively. In 2012, abdominoplasties and lipoplasties are among the top five plastic surgical procedures.

Combining liposuction with excisional surgery has become increasingly common with the goals of minimizing cost and hospital stays while maximizing aesthetic results. However, questions have been raised regarding the safety of adding liposuction to what may already be a complicated surgery.

In an effort to evaluate the risk for postoperative complications in patients undergoing excisional surgery with or without liposuction, the authors conducted a retrospective review of 413 surgeries performed at UT Southwestern Medical Center.

Electronic medical records of 413 cases of body contouring surgery by 15 surgeons at UTSW from January 1st, 2008 to January 31st, 2012 were retrospectively reviewed. Three groups of patients were compared: liposuction only, excision only, and combined liposuction with excision surgeries. Some patients also received additional intra-abdominal, gynecologic, and breast procedures.

Patient variables included age; body mass index (BMI); American Society of Anesthesiologists risk score (ASA score); Caprini score; operation time; co-morbidities (diabetes, hypertension, cardiovascular diseases, pulmonary diseases, and renal diseases); smoking status; prophylactic antibiotic use, recent major surgery (defined as less than one month prior to the operation).

Variables were analyzed by Fisher's exact test, ANOVA, and post hoc Tukey tests. Univariate logistic regression was used to reveal risk factors for complications in each group. Multivariate logistic regression was used to compare complication rates between groups while adjusting for potential confounding factors. All analyses were performed using SAS 9.2 (Cary, NC).

Table 1. Distribution of liposuction procedures. (n=101)

Name	Count	%
Abdomen/flank	50	49.5
Arm	4	4.0
Back	5	4.9
Male chest	9	8.9
Female breast	2	2.0
Neck	8	7.9
Hip/thigh	17	16.8
position unknown	6	5.9

Table 2. Distribution of excisional surgeries. (n=159)

Name	Count	%
Abdominoplasty	37	23.3
Brachioplasty	15	9.4
Thighplasty	16	10.1
Butt lift	2	1.3
Circumflex body lift	1	0.6
lower body lift	13	8.2
Abdominoplasty and thighplasty	7	4.4
Abdominoplasty and brachioplasty	5	3.1
Abdominoplasty and upper lift	3	1.9
Abdominoplasty and lower	2	1.3
Abdominoplasty and herniorrhaphy	9	5.7
Abdominoplasty and hysterectomy	5	3.1
Abdominoplasty and breast procedure	42	26.4
Brachioplasty and thighplasty	2	1.3

Table 4. Incidence of Venous Thromboembolism, Wound Problems, Flap Problems, Flap Failure, Other Complications, and Overall Complications by Type of Surgery.

Complication	Liposuction	Excision	Combined
	n=101	n=159	n=153
	Count (%)	Count (%)	Count (%)
Venous thromboembolism	0 (0)	0 (0)	1 (0.7)
Wound problems	5 (5.0)	42 (26.4)	31 (20.3)
Delayed wound healing	1 (1.0)	5 (3.1)	6 (3.9)
Flap problems	0 (0)	0 (0)	1 (0.6)
Flap failure	0 (0)	0 (0)	0 (0)
Other complications	3 (3.0)	4 (2.5)	9 (5.9)
Overall complications	8 (7.9)	46 (28.9)	37 (24.1)

Table 6. Incidence of complication in abdominoplasty vs abdo+liposuction group.

Complication	Abdominoplasty	Abdo+liposuction
	n=37	n=63
	Count (%)	Count (%)
Infection	1 (2.7)	0 (0)
Dehiscence	1 (2.7)	1 (1.6)
Erythema	5 (13.5)	3 (4.8)
Necrosis	2 (5.4)	1 (1.6)
Seroma	2 (5.4)	9 (14.3)
Hematoma	1 (2.7)	0 (0)
Delayed wound healing	0 (0)	0 (0)
Total wound problem	9 (24.3)	13 (20.6)
VTE	0 (0)	0 (0)
Flap seroma	0 (0)	1 (1.6)
Flap failure	0 (0)	0 (0)
Other complication	0 (0)	3 (4.8)
Total complication	9 (24.3)	17 (27.0)

* p value <=0.05, compared with combined group, Fisher Exact Test. Other complication: leg pain without VTE, fever.

Table 7. Multivariable Logistic Regression Analysis of the Impact of Combined Surgery on Overall Complications and Wound Problems While adjusting for Operative Time and BMI.

Variable	Overall Complications			Wound Problems		
	OR	P	Overall P	OR (95% CI)	P	Overall P
liposuction vs combined	0.363	0.018	—	0.280 (0.102-0.767)	0.0133	—
Excisional vs combined	1.297	0.327	—	1.455 (0.842-2.513)	0.1789	—
Operation time (per hour)	1.264	0.000	0.0005	1.293 (1.126-1.485)	0.0003	0.0003
BMI (per unit)	1.037	0.013	0.1340	1.031(0.980-1.085)	0.2383	0.2383

Results

Table 3. Combined liposuction and excision (n=153)

Name	Count	%
Lipo flank/abdomen and abdominoplasty	63	32.0
Lipo hip/thigh/back/arm and abdominoplasty	38	24.8
Lipo male chest and abdominoplasty	1	0.7
Lipo and upper body lift	1	0.7
Lipo and lower body lift	1	0.7
Lipo and thighplasty/brachioplasty	12	7.8
Lipothigh and abdominoplasty with mastopexy	11	7.2
Lipo flank/abdomen and abdominoplasty with mastopexy	26	17.0

Table 5. Incidence of various wound problems and delayed wound healing by Groups.

Complication	Liposuction	Excision	Combined
	n=101	n=159	n=153
	Count (%)	Count (%)	Count (%)
Infection	1 (1.0)	8 (5.0)	5 (3.3)
Dehiscence	0 (0)	14 (8.8)*	4 (2.6)
Erythema	2 (2.0)	17 (10.7)	11 (7.2)
Necrosis	0 (0)	5 (3.1)	1 (0.6)
Seroma	2 (2.0)*	5 (3.1)*	14 (9.2)
Hematoma	0 (0)	4 (2.5)	1 (0.6)
Delayed wound healing	1 (1.0)	5 (3.1)	6 (3.9)

* p value <=0.05, compared with combined group, Fisher Exact Test.

Conclusion

Our data indicate that excisional procedures combined with liposuction does not significantly increase overall postoperative complications. However, operative time is a significant risk factor for wound problems and overall complications. In addition, there is a trend for males, patients with higher BMI, older age (>45), and co-morbidities to develop postoperative complications. It is reasonable to combine excisional surgery with liposuction, however, plastic surgeons should perform a thorough preoperative assessment on each patient in order to achieve a successful outcome. Combining multiple procedures in one OR visit allows for reduced cost and greater efficiency, however combining multiple body contouring procedures can potentially increase operative time, which we found to be a determinant for overall complications. While it is appropriate to offer combined body contouring surgery to patients, plastic surgeons should balance the number of concurrent procedures with the estimated operative time in order to maximize patient safety.

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