

A Comparative Analysis of the Complication Rate in "Mommy Makeover" Procedures and Abdominoplasty

Yoram Wolf MD MHA^{1,3}, Yifat Fainzilber-Goldman MD², and Ron Skorochod MD MPH¹

¹Department of Plastic Surgery, Hillel Yaffe Medical Center, Hadera, Israel

²Department of General Surgery, Hillel Yaffe Medical Center, Hadera, Israel

³Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

ABSTRACT

Background: Abdominoplasties are among the most common procedures in aesthetic plastic surgery. The target audience are patients after massive weight loss who are left with excess skin and post-partum patients. Due to the efficacy of abdominoplasties in improving the abdominal contour, it became a mainstay procedure in plastic surgery. Claims have been made that abdominal surgeries can be safely combined with breast surgeries, and thereby decrease the risk associated with anesthesia for two separate procedures as well as the recovery period. The benefits of the combined procedures led to a surplus of patients seeking consultations.

Objectives: To examine the safety of the *mommy makeover* procedure compared to sole abdominoplasty.

Methods: Patients who previously underwent abdominoplasty by the senior author were divided into two groups based on whether breast surgery was performed in addition to the abdominoplasty. Groups were compared based on demographical, clinical, and surgical variables.

Results: The study cohort included 726 patients, of whom 15% underwent "Mommy-makeovers". Groups differed only in liposuction volume, resection weight and number of drains. Regarding surgical outcomes, surgical site infections were seen at a greater rate in the isolated abdominoplasty procedure. Further analyses accounting for potential confounders found no difference between the groups in terms of adverse events.

Conclusions: Mommy makeovers do not display a safety concern when compared to isolated abdominoplasties. Surgeons must consider various patient characteristics to ensure optimal results.

IMAJ 2025; 27: 526–530

KEY WORDS: abdominoplasty, aesthetic, breast, mommy-makeover surgery, patient safety

Abdominoplasty provides a functional and aesthetic solution for patients with excess skin and weakened abdominal muscles. The main patient population includes post-partum patients and those who have undergone a significant reduction in body weight, whether through lifestyle and dietary modifications alone or in conjunction with surgical and pharmacological methods.

Concurrent performance of breast surgery and abdominoplasty has become widely popular among women who have undergone multiple pregnancies and are interested in a multimodal and comprehensive surgical intervention to restore a youthful physique. The combination of breast surgery and abdominoplasty has been termed *mommy makeover* due to its primary target population of post-partum women.

Combining abdominoplasty and breast surgery into a single procedure presents numerous benefits to women seeking body contouring surgery. This consolidated approach reduces the number of required procedures and thereby shortens the overall recovery period required with each individual procedure.

Despite the considerable advantages and increasing popularity of the mommy makeover, the medical community refrains from advocating the procedure over the individual approach. Physicians opposing the integration argue that by combining the procedures into a longer and more extensive operation, there is potential elevation of the risk of complex surgical and anesthetic complications. Moreover, they argue that the anticipated recovery from a combined procedure can be more challenging compared to performing the two procedures separately.

In this study, we conducted a comparative analysis of surgical outcomes following the mommy makeover procedure versus those of abdominoplasty alone. We aimed to determine the safety profile of the mommy makeover procedure within a large and heterogeneous patient cohort, all of whom were operated on by the same surgeon.

PATIENTS AND METHODS

DATA COLLECTION

Surgical records of patients who underwent abdominoplasty by the senior author (YW) during the defined study period were reviewed. Patients were included in the study if they adhered to the required postoperative follow-up for 30 days.

The cohort was divided based on whether patients underwent a combined breast and abdominoplasty procedure or individual abdominoplasty. Breast procedures that were deemed relevant for inclusion in the intervention group were mastopexy with augmentation mammoplasty, mastopexy without augmentation mammoplasty, reduction mammoplasty, and augmentation mammoplasty. Figure 1 shows a typical patient who underwent a mommy makeover with abdominoplasty with mastopexy. This 45-year-old patient underwent three prior cesarean section deliveries and had no significant medical history.

Complete medical records and surgical notes of all patients were subjected to review, and relevant data were extracted. Extracted variables focused on demographics, such as age, body mass index (BMI), marital status, history of caesarean section deliveries, underlying medical conditions, previous bariatric surgeries,

and smoking history. Moreover, surgical outcomes, including postoperative complications and the necessity for revision surgery, were also collected. Extracted data were later transferred to a computerized database for further analysis.

The incidence of complications was compared between the cohort of patients who underwent the mommy makeover procedure and those who underwent abdominoplasty alone.

STATISTICAL ANALYSIS

Statistical analyses were performed using IBM Statistical Package for the Social Sciences statistics software, version 29 (SPSS, IBM Corp, Armonk, NY, USA). Continuous variables were expressed as mean and standard deviations and categorical variables were expressed as frequency out of total number of patients.

Chi square or Fisher's exact tests were employed for comparison of categorical variables, as appropriate. Continuous variables were compared using Student's *t*-test or Wilcoxon ranked sum, according to normality of data distribution.

Logistic regression was employed to investigate the independent impact of various factors on the chosen outcome.

A *P*-value < 0.05 was considered statistically significant.

Figure 1. Mommy makeover abdominoplasty with mastopexy: 45-year-old patient gravida 3, para 3, two cesarean sections, no significant medical history



RESULTS

A total of 726 patients were included in the study, of whom 15.4% were assigned to the mommy makeover group. The two groups were statistically similar in most demographic parameters. However, intraoperative liposuction volume was found to be significantly higher in the abdominoplasty group with a mean of 1402 ml compared to 1059 ml in the mommy makeover group ($P < 0.01$). Flap resection weight was found to be greater in the mommy makeover group ($P = 0.02$), with a mean of 969 grams, compared to 786 grams in the abdominoplasty group. Furthermore, a significant difference was observed between the two groups in the number of drains placed at the conclusion of the surgical procedure.

A comprehensive comparison of all demographic and intra-operative data is presented in [Table 1].

To ascertain the null hypothesis suggesting no difference in the rate of postoperative adverse events, we conducted a univariate analysis to compare the overall complication rates between the groups. No statistical significance was observed regarding differences in the rates of wound dehiscence, hematomas, seromas, need for complementary or reoperation, or postoperative drain placement. A statistically significant reduction in the incidence of surgical wound infections was observed in the mommy makeover group ($P = 0.013$) [Table 2].

Subsequently, a logistic regression model was implemented to identify independent risk factors for the development of adverse events and understand the impact of different variables on their rate of occurrence. Potential confounding variables were added to the model in multi-layer format. After adjusting for age, hypertension, diabetes, smoking, history of bariatric surgery, BMI, excised weight, and aspirated volume, no significant differences were observed in the risk of developing any of the complications between the groups [Table 3].

DISCUSSION

Performance of concomitant breast surgery and abdominoplasty allows for the integration of several procedures of adjacent anatomical areas into a single procedure, thus offering a more efficient surgical approach. The evidence demonstrating the efficacy and safety of integrating multiple procedures into a single operative session has prompted an increasing number of surgeons to offer their patients the option of performing combined procedures in

Table 1. Comparison of demographic variables between the study groups

Variable	Mommy makeover group	Abdominoplasty group only	P-value
Age in years	42.1 ± 9	43.6 ± 9.7	0.12
Body mass index, kg/m ²	28.1 ± 2.7	26.5 ± 4.6	0.25
Marital status			
Single	11	54	0.36
Married	73	446	
Divorced	24	93	
Widowed	2	12	
Previous cesarean deliveries	44	261	0.55
Co-morbidities			
Smoking	37	155	0.07
Hypertension	4	39	0.28
Diabetes	2	20	0.43
Dyslipidemia	4	22	0.96
Asthma	5	24	0.73
Hypothyroidism	10	33	0.12
Psychiatric history	1	9	0.66
Thrombophilia	2	15	0.70
Previous bariatric surgery	17	84	0.58
Intraoperative hernia repair	25	89	0.16
Number of drains			
No drains	33	302	0.001
Single drain	31	121	
Double drains	48	207	
Excision weight	786 ± 706	794 ± 970	0.02
Suction volume	1059 ± 517	1403 ± 738	< 0.01

Table 2. Comparison of complication rates between the study groups

Variable	Mommy makeover group	Abdominoplasty group only	P-value
Surgical site infection	0	33	0.013
Wound dehiscence	16	74	0.43
Hematoma	2	6	0.43
Seroma	10	82	0.24
Need for reoperation	6	35	0.95
Need for postoperative drain insertion	1	10	0.58

Table 3. Logistic regression results for various complications in the group of patients undergoing a mommy makeover compared to the group undergoing abdominoplasty alone

Condition	Hazard ratio (95% confidence interval)	P-value
Surgical wound infection	1	1
Hematoma	1.49 (0.25–8.9)	0.66
Wound dehiscence	1.1 (0.52–2.3)	0.80
Seroma	0.63 (0.27–1.5)	0.30
Need for reoperation	0.65 (0.18–2.3)	0.50

Results are presented with adjustments for age, hypertension, diabetes, smoking, history of bariatric surgery, body mass index, excised weight, and aspirated volume

a single surgical session. Abdominoplasty is commonly reported regarding joint surgeries. Previous reports advocated safety in concomitant intra-abdominal or gynecological procedures of various indications [1].

Initial reports indicated that the incidence of complications associated with combined procedures was comparable to that of the individual procedures when performed alone, except in cases involving morbidly obese patients [2]. However, subsequent studies have published more concerning outcomes. Voss et al. [3] found that combined abdominoplasty with standard gynecological intervention was associated with elevated mortality rates, prolonged operating room time, and longer hospital stays. The authors identified pulmonary embolism as the most challenging complication that arose with joint surgeries, with approximately 7% of patients developing this complication after the procedures. The conclusion stems from the evident lack of thrombosis occurrence in standalone abdominoplasty procedures in their practice.

However, advances in understanding physiological processes, together with the refinement of preventive modalities, have led to the development of superior strategies aimed at reducing the risk of postoperative and peri-operative hypercoagulability. Therefore, it is plausible to assume that current life-threatening thrombotic events are unlikely to occur if proper care is followed [4].

The consolidation of several procedures into a single session offers several advantages, mainly optimized use of anesthesia time, reduction in surgical costs to the patient, decrease in the frequency of consultations and follow-up visits to the surgeon's clinic, and shortening of the recovery period and loss of workdays. Moreover,

the combination of procedures most probably does not result in increased local wound complications, such as increased flap tension, compromise of tissue perfusion, and bacterial colonization, as the procedures are performed at different anatomical regions [4,5].

Mommy makeover procedures have long been suggested as a safe and viable option in the armamentarium of plastic surgeons, with continuous evidence of comparable complication rates and need for complementary procedures.

Stevens and colleagues [6,7] reported no statistically significant elevation of complication rates among patients who underwent mommy makeover procedures compared to sole abdominoplasty. In their report, they state that 13% of all patients opting for the consolidation of procedures required complementary surgical intervention to correct the outcome. Although the prevalence seems steep, it is considerably lower than the theoretical rate of 100% of patients who would have required second intervention if the procedures were not combined and performed sequentially.

While the benefits of surgical combinations are widely acknowledged, some authors have highlighted the potential risks associated with the combination of two or more operations in a single surgical session at different anatomical sites. The primary concern that has been raised is the potential for an increased incidence of systemic complications because of the increased complexity and duration of the surgical and anesthetic procedures [8,9].

Byrd and co-authors [10] stated that any cost savings or reduction in the necessity for follow-up appointments are inconsequential when weighed against the potential risks associated with the performance of complex surgeries by personnel lacking the requisite training or with inadequate funding.

It is crucial to consider the impact of prolonged surgical times when discussing the safety of combined procedures. In previous reports, researchers observed a positive correlation between surgical duration and postoperative complication rates. However, we must critically analyze whether the cause of complications was the complexity of the procedure or the systemic condition of the patient, rather than the independent effect of operative time. Furthermore, duration of standard procedure is greatly affected by the operating surgeon's experience. It is reasonable to conclude that a routine surgical procedure performed by an experienced surgeon will take less time than the same procedure performed by a less experienced surgeon [11-14].

CONCLUSIONS

The safety of a combined procedure consolidating abdominoplasty and breast surgery is comparable to that of abdominoplasty performed as a standalone procedure.

Correspondence

Dr. Y. Wolf

Dept. of Plastic Surgery, Hillel Yaffe Medical Center, Hadera 38425, Israel

Email: yoramw@hymc.gov.il

References

1. Shermak MA. Abdominoplasty with combined surgery. *Clin Plast Surg* 2020; 47 (3): 365-77.
2. Matarasso A, Smith DM. Combined breast surgery and abdominoplasty: strategies for success. *Plast Reconstr Surg* 2015; 135 (5): 849e-860e.
3. Voss SC, Sharp HC, Scott JR. Abdominoplasty combined with gynecologic surgical procedures. *Obstet Gynecol* 1986; 67: 181-5.
4. Beran SJ. Combination procedures: balancing risk and reward. *Aesthet Surg J* 2006; 26: 443.
5. Stevens WG, Vath SD, Stoker DA. "Extreme" cosmetic surgery: a retrospective study of morbidity in patients undergoing combined procedures. *Aesthet Surg J* 2004; 24: 314-18.
6. Stevens WG, Cohen R, Vath SD, et al. Is it safe to combine abdominoplasty with elective breast surgery? A review of 151 consecutive cases. *Plast Reconstr Surg* 2006; 118: 207-12; discussion 213.
7. Stevens WG, Repta R, Pacella SJ, et al. Safe and consistent outcomes of successfully combining breast surgery and abdominoplasty: an update. *Aesthet Surg J* 2009; 29: 129-34.
8. Coon D, Michaels J V, Gusenoff JA, et al. Hypothermia and complications in postbariatric body contouring. *Plast Reconstr Surg* 2012; 130: 443-8.
9. Sessler DI. Mild perioperative hypothermia. *N Engl J Med* 1997; 336: 1730-7.
10. Byrd HS, Barton FE, Orenstein HH, et al. Safety and efficacy in an accredited outpatient plastic surgery facility: a review of 5316 consecutive cases. *Plast Reconstr Surg* 2003; 112: 636-41; discussion 642.
11. Scott CF Jr. Length of operation and morbidity: is there a relationship? *Plast Reconstr Surg* 1982; 69: 1017-21.
12. Rambachan A, Mioton LM, Saha S, Fine N, Dumanian G, Kim JYS. Increased operative time is associated with higher complication rates in plastic surgery patients. *Plast Reconstr Surg* 2013; 132: 103.
13. Hardy KL, Davis KE, Constantine RS, et al. The impact of operative time on complications after plastic surgery: A multivariate regression analysis of 1753 cases. *Aesthetic Surg J* 2014; 34: 614-22.
14. Howland WS, Schweizer O. Complications associated with prolonged operation and anesthesia. *Clin Anesth* 1972; 9: 1-7.

Capsule

Channeling anti-tumor responses

Volume-regulated anion channels (VRACs) transport a wide range of solutes across the cell membrane and are critical in regulating cell volume. **Cao et al.** showed that the VRAC leucine-rich repeat containing 8A/C can transport cyclic GMP-AMP (cGAMP) from irradiated cancer cells into T cells within tumors to enhance their antitumor effector responses. T cell receptor signaling leads to the opening of VRAC pores and transport of

cGAMP, which then leads to activation of downstream signaling pathways and the subsequent induction of type I interferon and CD8 T cell effector molecules. These results highlight how targeting cGAMP transfer into T cells may be a potential strategy for enhancing antitumor responses.

Sci Immunol 2025; 10:1126/sciimmunol.adn1630

Eitan Israeli

Capsule

Immunometabolism in systemic lupus erythematosus

Systemic lupus erythematosus (SLE) is a multifaceted autoimmune disorder characterized by chronic inflammation, tissue damage, accelerated cardiovascular disease and the synthesis of autoantibodies that target nucleic acids and nuclear protein complexes. Emerging evidence underscores the key role of immune metabolic dysregulation in SLE, revealing how metabolic reprogramming during immune cell activation influences disease development and progression. Alterations in key metabolic pathways such as glycolysis and oxidative phosphorylation profoundly affect the activation, differentiation and function of B and T cells,

monocytes, neutrophils and other immune cells, driving inflammation and tissue injury. A review by **Patino-Martinez** and **Kaplan** synthesized current findings on immune cell metabolism in animal models of lupus and in patients with SLE, highlighting the interplay of metabolic disturbances, mitochondrial dysfunction and disease pathogenesis. Furthermore, it explores the potential of targeting metabolic pathways as therapeutic strategies to mitigate organ damage and improve outcomes in SLE.

Nature Rev Rheumatol 2025; 21: 377

Eitan Israeli