



A TREATISE ON ABDOMINAL CONTOURING PROCEDURES IN A TERTIARY CARE HOSPITAL

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ABSTRACT

**BACKGROUND** - Abdominoplasty and liposuction have traditionally been separate procedures. However, it is seen that abdominoplasty without liposuction and vice versa produces suboptimal results and often leaves patients discontented. The present study was conducted to evaluate the aesthetic outcomes of different abdominal contouring procedures. **Study design:** Prospective, interventional, institution based, conducted at Apollo Multispeciality Hospitals Limited, Kolkata, India. **METHOD:** Our study includes 16 patients operated over a period of 6 months; 12 patients underwent liposuction assisted abdominoplasty as a single procedure, and 4 patients underwent liposuction only. Patients choosing liposuction only were less satisfied with the final aesthetic outcomes. **CONCLUSION:** Liposuction assisted abdominoplasty results in a significantly better aesthetic outcome with long-lasting results.

**KEYWORDS :** liposuction, abdominoplasty, tumescent solution, plication of rectus.

INTRODUCTION

Lipoabdominoplasty has evolved over the last 6 decades through contributions from numerous aesthetic and reconstructive surgeons.[1] Liposuction was initially utilized with mini-abdominoplasty to improve contour. Subsequently, the safe combination of liposuction with full abdominoplasty, emphasizing vascular anatomy of the abdominal wall was proposed.[2] Further, the various options of cutaneous undermining, excision, and liposuction assisted procedures utilized in abdominal contouring, as indicated by the degree of skin laxity and musculofascial diastasis were explained. It was later proposed that an abdominoplasty with selective undermining between the medial borders of the rectus and discontinuous undermining with liposuction in the lateral abdomen to facilitate flap redraping could preserve the perforating blood supply from the deep epigastric vessels.[3] Though the aesthetic benefits and the safety of concurrent liposuction and abdominoplasty have been described, some surgeons still hesitate to perform immediate liposuction of the central abdomen or elevated abdominoplasty flap due to concerns about vascular compromise.

The current study was done to re establish the benefits of liposuction assisted abdominoplasty with respect to more aesthetically pleasing results.

METHODOLOGY

This prospective, interventional, institution based study was conducted at the Department of Plastic Surgery, Apollo Multispeciality Hospitals Limited, Kolkata, India. Study period was 6 months, (October 2019 to March 2020). 16 women in the age group of 22-60 years, attending the outpatient department, having pendulous abdomen, skin redundancy, muscular divarication, fullness at love-handles and epigastrium, saddle bag deformity, and BMI < 35, desirous of aesthetic improvement of their abdomen were included in the study. Patients were divided into 2 groups – Group (A) treated with liposuction only as there was no skin laxity or divarication of recti, and Group (B) treated with liposuction assisted complete abdominoplasty. Evaluation was done based on operative time, hospital stay, complications, return to work, and patient satisfaction. Informed consents were taken and patients with ongoing weight reduction, or those who refused to get enrolled in the study and patients with co-morbid health issues were excluded from the study. Smokers were advised to quit 1 month before surgery. Patients were taken up for surgery after complete preoperative investigations, including abdominal ultrasound, coagulation profile, and clinical examination to exclude hernias and previous surgical scars. Markings were done in upright position. (Figure 1a, 1b, 1c) Compression stockings were applied and tumescent infiltration[4] was done in all patients. Liposuction of deep plane with 4 mm cannula and

final refining with 3mm cannula was done. For abdominoplasty, abdominal flap dissection was done till subcostal margin preserving the lateral abdominal perforators.(Figure 2c) Plication of rectus sheath[5] was done to strengthen abdominal wall laxity and to produce an “hour glass” belly. Patient was put in Fowler’s position to assess the tension on closure. Suction drains were applied after meticulous hemostasis. Progressive tension sutures were placed for ease of closure and reduce the incidence of seromas. Wound was closed in 3 layers with 3-0 Monocryl and 4-0 Nylon.(Figure 2f) Patients were put on compression garments and encouraged to mobilize the same day. Drains were removed when the output decreased to less than 30 ml/day. Follow up was advised at 7<sup>th</sup> POD, and subsequently at 1, 3 and 6 months.

RESULTS

All patients undergoing liposuction only were discharged the same day. Patients who underwent lipoabdominoplasty were discharged on an average on the 2<sup>nd</sup> POD. No major complications were noted in any of the patients, except one patient developing minor wound dehiscence which healed with daily dressings and another patient with seroma which too resolved over time. Patients treated with PAL only were not very satisfied with their results as there was some skin laxity and the final results were not comparable to LAA. However, it was explained to them that they lacked the indications for LAA as there was no sagging skin and muscle tone was adequate.

Table 1 - General Details

SERIAL NO	PROCEDURE	OPERATIVE TIME	HOSPITAL STAY	RETURN TO WORK	COMPLICATION	PATIENT SATISFACTION
1	LAA*	3.5 HRS	24 HRS	12 DAYS	NIL	VERY GOOD
2	LAA	4 HRS	2 DAYS	2 WEEKS	NIL	VERY GOOD
3	LAA	3.5 HRS	24 HRS	10 DAYS	NIL	GOOD
4	LAA	4 HRS	2 DAYS	2 WEEKS	NIL	VERY GOOD
5	LAA	4 HRS	24 HRS	12 DAYS	NIL	VERY GOOD
6	LAA	4.5 HRS	3 DAYS	3 WEEKS	WOUND DEHISCENCE	FAIR
7	LAA	4 HRS	2 DAYS	12 DAYS	NIL	VERY GOOD
8	LAA	4 HRS	2 DAYS	2 WEEKS	NIL	VERY GOOD

9	LAA	4.5 HRS	2 DAYS	2 WEEKS	NIL	GOOD
10	LAA	3.5 HRS	24 HRS	12 DAYS	NIL	VERY GOOD
11	LAA	4 HRS	3 DAYS	17 DAYS	SEROM A	VERY GOOD
12	LAA	4 HRS	2 DAYS	10 DAYS	NIL	VERY GOOD
13	PAL** only	2.5 HRS	DAY CARE	5 DAYS	NIL	GOOD
14	PAL only	2 HRS	DAY CARE	3 DAYS	NIL	FAIR
15	PAL only	2.5 HRS	DAY CARE	7 DAYS	NIL	GOOD
16	PAL only	2.5 HRS	DAY CARE	5 DAYS	NIL	FAIR

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(LAA\* - Liposuction Assisted Abdominoplasty, PAL\*\* - Power Assisted Liposuction)

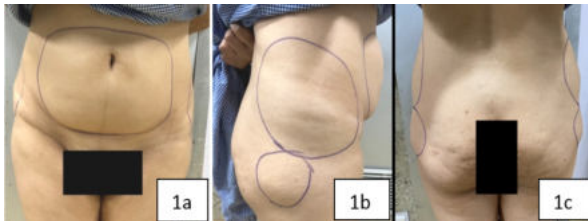


Figure 1a, 1b, 1c – markings in upright posture for PAL (anterior, lateral and posterior views)



Figure 1d – 7<sup>th</sup> POD, 1e – 1 month follow up. (PAL only)

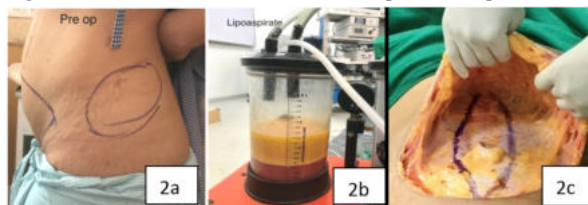


Figure 2a – markings, 2b – lipoaspirate, 2c – extent of dissection and marking for plication.

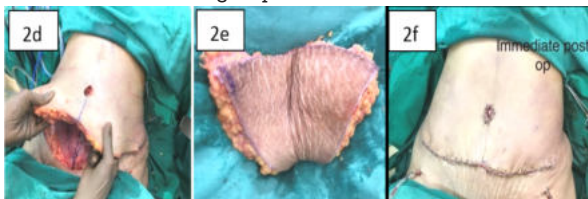


Figure 2d – planning of closure, 2e – excised tissue, 2f – immediate result (LAA)

**CONCLUSION**

Liposuction assisted abdominoplasty is based solely on the selective undermining of the anterior abdominal wall, taking care of vascularity, lymphatics, and nerve supply. The traditional dissection has been replaced with cannula dissection, thereby retaining the blood supply of abdominal wall perforators. However it is seen that only PAL often does not produce the aesthetic appearance patients desire of, notwithstanding that all patients are not candidates for LAA.