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# Experience with Lipoabdominoplasty in a cosmetic surgery center in southern Nigeria

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## Abstract

**Background and objectives**: The combination of liposuction and abdominoplasty for aesthetic sculpting of the trunk is gaining popularity in recent times. Some plastic surgeons however, have concerns about this approach mostly for fear of increased complication profile with combination of the procedures. This review aims to report our experience with lipoabdominoplasty.

**Methods**: A retrospective review of patients who underwent lipoabdominoplasty between January 2019 and January 2022 was conducted. Information on age, Body Mass Index (BMI), surgery duration and post operative complications were retrieved and analyzed.

**Results**: In the period under review, a total of the sixty one (61) lipoabdominoplasties were performed in the center. All of the patients were females. Age range was 24 to 52 years with a mean age of 37.7 years. The body mass indices of the patients ranged from 20.5 to 36 kg/m2, with mean body mass index of 29.5kg/m2. Surgery duration varied from 2.5 to 4.5 hours, with mean surgery duration of 3.6 hours.

We recorded a total of 5 complications. One patient (1.6%) had a hematoma, three patients (4.9%) had partial wound dehiscence, and one patient had a small area of superficial epidermiolysis of the skin (1.6%). There were no cases of skin necrosis and deep vein thrombosis. All complications were minor and healed with conservative management.

**Conclusions**: In the authors' experience, lipoabdominoplasty can be carried out for most patients for whom standard abdominoplasty is indicated with better aesthetic outcome and reduced complication rates.

**Keywords:** Experience; Lipoabdominoplasty; Cosmetic Surgery; Southern Nigeria

## 1. Introduction

Lipoabdominoplasty is a surgical technique that combines two different methods of abdominal wall contouring viz; liposuction and abdominoplasty. This was initial plagued with controversies especially for fear of potential vascular damage of the abdominal flap and increased complications[1]. However, modifications and refinement of the abdominal flap undermining has improved results and decreased rates of complications. Therefore, lipoabdominoplasty can be performed without increasing morbidity, while conferring a better aesthetic result and improving the appearance of the abdominal contour[2].

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Lipoabdominoplasty has evolved over the last few decades through contributions from numerous authors in plastic surgery. In 1880, Demars and Marx in France reported the first excision of skin and fat from the anterior abdominal wall. In 1899, Kelly, a gynecologist at Johns Hopkins University performed abdominal panniculectomy making a horizontal elliptical wedge around the umbilicus. In 1924, Thorek performed the first aesthetically-pleasing abdominoplasty with umbilical preservation[3]. Subsequently, several luminaries reported modifications, mostly related to the position of the scar. In 1967, Pitanguy reported treating rectus abdominis muscle diasthesis by aponeurotic reinforcement, in his publication of 300 cases of abdominoplasty[4]. Illouz in the early 1980s popularized liposuction[5]. This was forever going to change the face of body contouring. Wilkinson and Swartz in 1986 combined liposuction with mini-abdominoplasty[6]. Bozola and Psillakis in 1988 and then, Matarasso in 1991 developed two different classification systems for abdominal wall laxity, and suggested specific treatment for each type[7,8]. Matarasso suggested standard abdominoplasty combined with liposuction of the flank, and the lower part of the abdominal flap to aid coaptation of the wound edges and prevent dog ears. Nine years after his initial work, Matarasso demonstrated the safety of combining liposuction with standard abdominoplasty in selected patients with the caveat that the abdominoplasty flap be elevated only to the extent necessary to achieve wound closure with minimal tension[9]. Saldanha in 2001 first used the term “lipoabdominoplasty”, when he described complete liposuction of the abdomen combined with a standard abdominoplasty with limited undermining[10].

Despite various studies reporting the utility and safety of lipoabdominoplasty, there remains some trepidation in its application among plastic surgeons. This study seeks to report our experience with lipoabdominoplasty using the Saldanha’s technique.

## 2. Patients and methods

This is a retrospective study done using case records of all patients who had lipoabdominoplasty in a privately owned aesthetic surgery facility in Port Harcourt, Southern Nigeria from January 2019 to January 2022 (three year period). Information on age, BMI, surgery duration and post operative complications were retrieved and analyzed. All patients had indication for classic abdominoplasty and were treated with lipoabdominoplasty.

### 2.1. Surgical Technique

Preoperative markings were made both in the standing, and in the supine positions. The areas to be liposuctioned on the anterior abdomen, flank and back were marked while standing. Thereafter the patient is made to lie supine. A suprapubic line was marked at 6 - 8 cm above the anterior commissure of the vulva, and drawn out towards the iliac crests. The superior incision site was marked following estimation of the extent of the panniculus with a pinch test. The superior curved line was drawn out laterally to join the inferior line bordering an elliptical area of tissues to be excised. The proposed location of the new umbilicus was marked approximately 8 to 10 cm above the superior line.

Procedures in all patients were performed under general anesthesia, with a dose of broad spectrum antibiotic given at induction of anaesthesia. 40 mg of low-molecular-weight heparin was often administered in high BMI patients. Wetting solution of normal saline, lidocaine and epinephrine with the tumescent technique was infiltrated in all areas marked for liposuctioning.

With the patient in the prone position, liposuction of the back and the flank was done first. The patient was then turned to the supine position and liposuction of the anterior abdominal wall done. Effort was made to maintain suctioning in the deep fat plane. On completion of liposuction, abdominoplasty was then undertaken. Incisions are made along the markings and deepened down to the scarpa’s fascia to allow resection of the lower abdominal skin and fat excess. The umbilicus was isolated with a circular skin incision. Narrow undermining of the abdominal flap up to the xiphoid creating a tunnel limited to the medial borders of the rectus abdominis. Where indicated, the rectus sheath was plicated from the xiphoid process to the suprapubic region. Close active drain was placed in the dependent areas. The patient was then placed in the Fowler’s position, to allow tension free approximation of the abdominal flap to the inferior flap. Closure was done in 3 layers - PDS 0 was placed deep in the subcutenous layer in interrupted fashion. Monocryl 2/0 was used to coapt the subdermis. Closure was completed with placement of running subcuticular stitches.

Postoperative medications included antibiotic mostly third-generation cephalosporin, nonsteroidalantiinflammatory drugs and paracetamol. Patients were ambulated as soon as anaesthesia wore off. Drains were removed as soon as effluent volume was less than 20mls for two consecutive days, usually on the third to fifth post-operative day.

## 3. Results

In the period under review, a total of the sixty one (61) lipoabdominoplasties were performed by the authors. All of the patients were females. Age range was 24 to 52 years with a mean age of 37.7 years. The body mass indices of the patients ranged from 20.5 to 36 kg/m2, with mean body mass index of 29.5kg/m2. Surgery duration varied from 2.5 to 4.5 hours, with mean surgery duration of 3.6 hours.

We recorded a total of 5 complications (Table 1). One patient (1.6%) had a hematoma, three patients (4.9%) had partial wound dehiscence, and one patient had a small area of superficial epidermiolysis of the the skin (1.6%). There were no cases of skin necrosis and deep vein thrombosis. All complications were minor and healed with conservative management. All patients were followed up for at least 6 months post surgery.

**Table 1** Complications

| Complications | Numbers | Percentage |
|---|---|---|
| Hematoma | 1 | 1.6% |
| Partial wound dehiscence | 3 | 4.9% |
| Superficial epidermiolysis | 1 | 1.6% |
| Skin necrosis | 0 | 0% |
| Deep vein thrombosis | 0 | 0% |

## 4. Discussion

Combining liposuction with standard abdominoplasty has been extensively documented in the literature[1,9–12]. The initial disposition was that of caution for fear of increased risk for flap necrosis and other complications. Approach to abdominoplasty kept changing in the bid to get a balance between safety and optimal aesthesis. Recently, Saldanha et al reported their experience with lipoabdominoplasty in which extensive liposuction was combined with an umbilical transposition, and limited undermining of the abdominal flap - The results seemingly addressing the previous concerns[10,12].

Huger et al divided the anterior abdominal wall into zones I, II and III based on the vascular anatomy[13] Standard abdominoplasty involves wide undermining of the abdominal flap as far as the costal margins and up to the xiphiod process[14]. This violates the vascular input from the anterior perforating branches of the deep epigastric vascular arcade (zone I). The abdominal flap is only sustained on the segmental intercostals, subcostal and lumbar vessels (zone III), having severed the inferior supply (zone II) while making the inferior incision[11,14].

The clinical advantages of lipoabdominoplasty over traditional abdominoplasty are varied and include - Better contouring of the abdomen, better uniformity of the abdominal contour, preservation of the blood supply of the skin, less postoperative complications, reduced chance of postoperative numbness[1,11,15]. The liposuction creates a mesh-like undermining which helps the flap to slide down without the need for the extensive dissection[16].

Lipoabdominoplasty however, is more technical than standard abdominoplasty alone[17]. To ensure preservation of flap vascularity, dissection in the supraumbilical area is limited to the midline between the borders of the rectus abdominis muscle[10,12]. This retains the perforators from the deep epigastric arcade. Secondly, liposuction is performed deep to Scarpa fascia to preserve vascularity[12].

Xia Y et al, in a systematic review, showed fewer complications in patients who had lipoabdominoplasty, than in patients who had standard abdominoplasty[1].

In our series, one patient had a small hematoma post-operatively (1.6%). Most of the literatures reviewed didn't report any hematoma. However, seroma formation was a relatively common complication, ranging from 0.8– 4%[2,18]. We had no case of seroma formation.

One patient in our series had superficial epidermiolysis (1.6%), similar to a report of 1.5% by Saldanha et al[2]. The patient was a 43year old obese female, with BMI of 31kg/m2. This complication was thought to be due to ill-fitting compression garment used post-operatively. The area was about 2cm2, and healed within a week on conservative management.

Three patients had partial superficial wound dehiscence (4.9%), one at the umbilical area, the other two at the inferior surgical wound. The patients were aged 34 to 43 years and were obese (mean BMI = 34.5 kg/m2). All wounds were dressed alternate daily with povidone iodine and healed completely within three weeks.

None of the patients had skin necrosis, wound infection or deep vein thrombosis. All patients expressed satisfaction of the post-operative aesthetic result, even though no objective assessment tool was used.

## 5. Conclusion

Lipoabdominoplasty is gaining popularity as its merits are becoming more obvious. Liposuction aids better sculpting of the abdominal wall. It also allows less undermining, decreased suture line tension, and maintenance of abdominal flap vasculature as compared with traditional abdominoplasty. It can be carried out for most patients for whom standard abdominoplasty is indicated.

## Compliance with ethical standards

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### *Disclosure of conflict of interest*

There were no conflicts of interest whatsoever.

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