PRINT ISSN 1119-8362
Electronic ISSN 2659-1502

Full-text Available Online at
https://www.ajol.info/index.php/jasem
http://www.bioline.org.br/ja

J. Appl. Sci. Environ. Manage.
Vol. 27 (7) 1477-1481 July 2023

Abdominoplasty Combined with Liposuction and Abdominal Herniorraphy as a Single Procedure for Ventral Hernia Repair- A Review of 6 Patients

***[1]ELIMIAN, HO; [2]OSHO, PO; [3]SOKUNBI, AE; [4]OLUDIRAN, OO**

*[1]Department of Surgery, College of Medical Sciences, Edo State University Uzairue, Edo State, Nigeria.
[2]Department of orthopaedics and traumatology, University of Benin Teaching Hospital, Benin City, Nigeria
[3]Department of Internal Medicine, Edo State University, Uzairue.
[4]Department of orthopaedics and traumatology, University of Benin, Benin City, Nigeria.

*Corresponding Author: Email: oguekhian@gmail.com; Tel: +2348026224676
Co-Authors Email: nimsyosho@yahoo.com; aisokunbi@gmail.com; oludiran@yahoo.com

ABSTRACT: Abdominoplasty is a commonly performed aesthetic procedure. Indications for this procedure include: fascial laxity or diastasis of the abdominal wall, abdominal wall hernias and aesthetic concerns of patient. Ventral hernias may be diagnosed clinically or intraoperatively during abdominoplasty. Hence, the objective of this paper is to review six (6) patients who had abdomiinoplasty combined with liposuction and abdominal herniorraphy as a single procedure for ventral hernia repair. Indication for surgery was purely cosmetic in 33.3% (n=2) while the other patients had co-existing hernia. One patient had umbilical hernia, 2 patients had epigastric hernia and one of the patients had combined paraumblical and epigastric hernia. All the patients had diastasis of the rectus. The abdominal hernias were diagnosed pre- operatively. All patients had liposuction from the trunk and the upper abdomen prior to abdominoplasty on same sitting. The procedures were done under general anesthesia with endotracheal intubation .The liposuction was done using the tumescence technique after which the traditional abdominoplasty was done. Herniorrhaphy was done along with rectal plication. Wound was closed in two layers.One patient had peri- umbilical abscess which resolved with drainage. All the patients had good outcome and expressed satisfaction with the procedure. Abdomiinoplasty combined with liposuction and abdominal herniorraphy as a single procedure is safe.

DOI: https://dx.doi.org/10.4314/jasem.v27i7.21

Cite this paper as: ELIMIAN, H. O; OSHO, P.O; SOKUNBI, A. E; OLUDIRAN O. O. (2023). Abdominoplasty Combined with Liposuction and Abdominal Herniorraphy as a Single Procedure for Ventral Hernia Repair- A Review of 6 Patients. . *J. Appl. Sci. Environ. Manage.* 27 (7) 1477-1481

Dates: Received: 12 June 2023; Revised: 21 June 2023; Accepted: 04 July 2023 Published: 30 July 2023

Keyword: Abdominoplasty, Liposuction, Ventral hernia, Herniorrhaphy

Abdominoplasty popularly referred to as "tummy tuck procedure" is a commonly performed aesthetic procedure in plastic surgery. Abdominal panniculectomy was initially documented by Demars and Marx in 1890 with a major drawback of sacrificing the umbilicus. Elbag and Flageul (1979). In 1910, Kelly used a transverse incision to resect a 7450-g panniculus (Kelly, 1910) (Kelly, 1899). Significant aesthetics advancement in abdominoplasty was credited to Thorek who documented the first umbilicus-preserving abdominoplasty in 1924 (Thorek, 1924) (Thorek, 1939). This has been followed by several modifications and advancement in abdominiplasties. Patients presenting for aesthetic concerns may have hernias. Some of these may be umbilical, paraumbilical, epigastric and incisional. Obesity is a major aetiological factor resulting in abdominal wall hernias. It contributes significantly to abdominal wall fascia laxity and skin redundancy. Bruner *et al.*, (2009), Horowitza and Leitman (2008). Other aetiological factors for abdominal hernias and abdominal wall laxity include: previous abdominal surgeries, multiparity and weight reduction following obesity. Ahonen-siirtola *et al.*, (2015). Patients requesting abdominoplasty and concomitant hernia repair as a single procedure have been a subject of debate. The risk of umbilical necrosis has been reported in cases of traditional abdominoplasty and

umbilical hernia repair. Huges *et al.*, (1996), Robertson *et al.*, (2003).This risk may necessitate the need for staged procedures by some surgeons. However, lipoabdominoplasty has the advantage of increased flap excursion and improved flap perfusion in addition to achieving patient's desired outcome. (Brauman, 2000) (Brauman, 2003). Some of the commonly encountered complications include seroma formation, wound infection, discomfort, and rarely total breakdown of repair. Stoikes *et al*, (2018), Olejek and Manka (2005).

Hence, the objective of this paper is to review six (6) patients who had abdomiinoplasty combined with liposuction and abdominal herniorraphy as a single procedure for ventral hernia repair.

MATERIALS AND METHOD

This is a review of six patients treated for abdominoplasty over a 2 year period June 2020 to May 2022. The patients upon arrival at the clinic had their biodata obtained. The patients were evaluated and investigated. Their weight, height and BMI were obtained. The abdominal hernias were diagnosed pre-operatively via clinical evaluation and confirmed with abdominal ultrasound scan. Patient aesthetic demands were noted. The procedure and possible complications were explained to the patient, after which informed consent was obtained. Markings were done preoperatively using skin markers (figure 1). The procedures were carried out under general anesthesia with endotracheal intubation. The liposuction was done using the tumescence technique. The wetting solution was prepared using 1litre of Ringers lactate plus 30ml of 2% xylocaine and 1ml of adrenaline (1 in 1000). The upper trunk and flanks were liposunctioned using suction assisted liposuction. Abdominoplasty was done using a low transverse suprapubic incision.

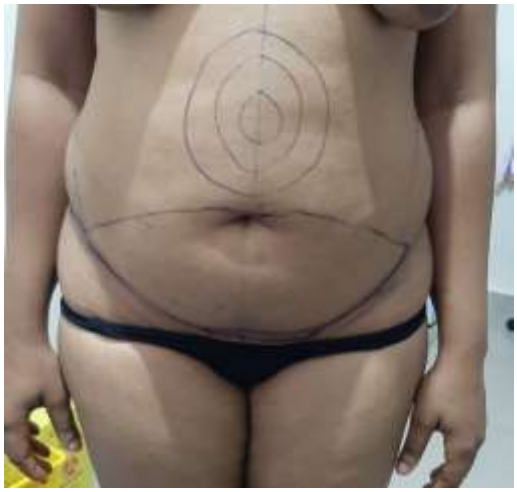

Fig 1: showing markings of for abdominoplasty and liposuction.

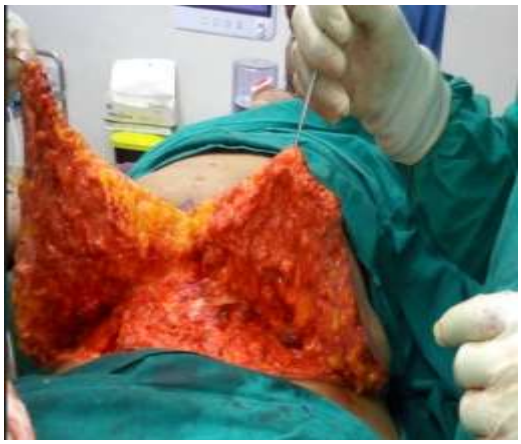

Fig 2: showing the bivaved skin flap for easy identification of the hernia sac

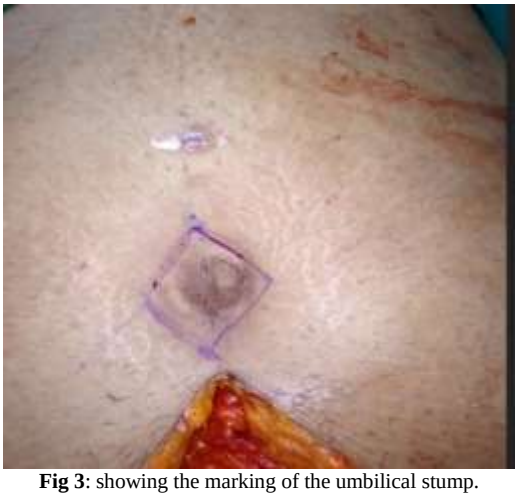

Fig 3: showing the marking of the umbilical stump.

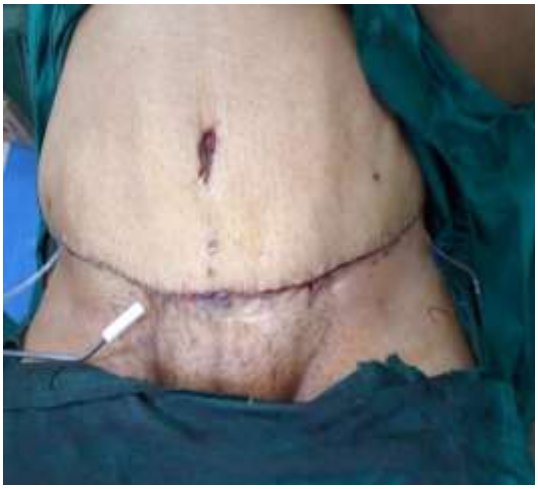

Fig 4: showing the incision closed over 2 suction drains

Skin flap was raised above the rectus from the groin superiorly above the Camper's fascia. The umbilicus was marked out 4cm by 4cm (figure 3). This marking was incised with a wide base to preserve the blood supply to the umbilicus. The skin flap was elevated to the costal margin and reflected to allow for hernia

repair and plication of the recti. When approaching the hernia sac, the already elevated skin flap was bivalve. This enable us to visualize the hernia sac. The defects were repaired (double breasted). One patient had mesh repair. The rectus was plicated and wound was closed in layer over 2 suction drains (figure 4). An abdominal band was placed over the dressing. Post operatively patient wore abdominal girdle for 6 -8 weeks.

RESULTS AND DISCUSSION

Total of 6 multiparous female patients were treated. Age range was between 32-45 years with a mean age of 39.8 year. Indication for surgery was purely cosmetic in 33.3% (n=2) while the other patients had co-existing hernia. One patient had umbilical hernia, 2 patients had epigastric hernia, one had combined epigastric and paraumbilical hernia (figure 2). Fifty percent of the patients had previous caesarian sections. One had a midline scar and 2 had pfannenstiel scars. All the patients had diversification of the rectus. All the patients had combined abdominoplasty liposuction. A total of 4 patients had abdominoplasty, herniorrhapy and liposuction. There was no major complication. However one patient had a periumbilical abscess, which resolved with drainage. All the patients expressed satisfaction with the procedure.

Abdominoplasty is an aesthetic procedure which can be combined with herniorrhaphy and liposuction. This gives an advantage of having reduced aneasthetic exposure, body enhacement and reduces cost. Patients presenting with ventral hernias are fascinated when offered combined abdominoplasty. In addition, liposuction enables the surgeon to reshape parts of the trunk which may not be addressed by abdominoplasty alone.

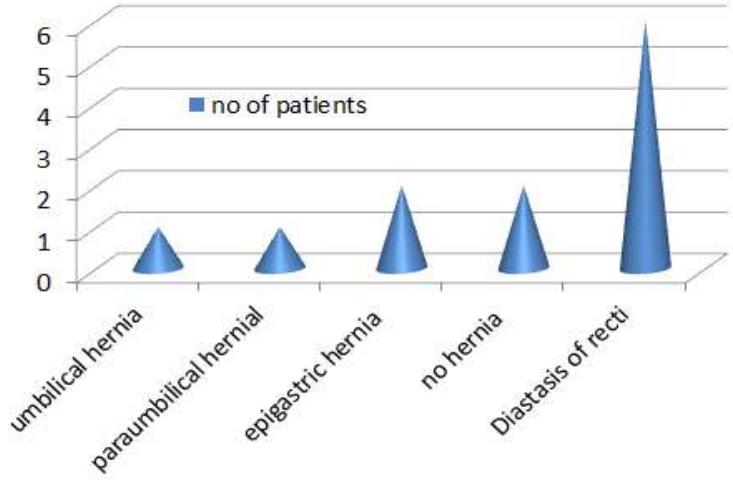

Fig 5: showing the types of ventral hernia

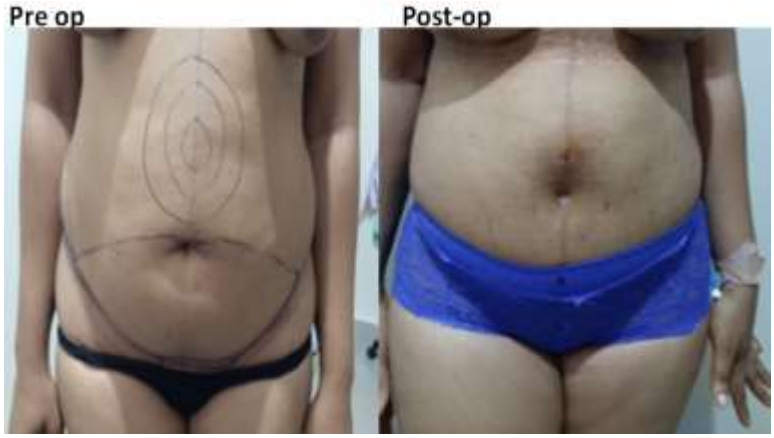

Fig 6: showing pre and post-operative photograph.

The use of the vertical incision approach has been favoured by some authors when combining abdominoplasty with open ventral hernia repair. This is believed to enable the surgeon identify the hernia and repair before panniculectomy Bruner *et al.*, (2009). This however has been found to be associated

with more post-operative complications and unsatisfactory scar. Cheesborough and Dumanian (2015). The horizontal incision gives a more satisfactory scar when compared to a vertical scar Cheesborough and Dumanian (2015), (Shermak, 2006). All the patient treated in this review expressed satisfaction with the horizontal scar. Meticulous dissection around the hernia can help prevents injury to the content of the hernia sac.

Umbilical necrosis as a complication has been reported to be higher with concomitant umbilical herniorrhaphy with abdominoplasty, compared with just abdominoplasty alone Ortega *et al.,* (2010). This risk however is less with the laparoscopic approach. (Le Gall *et al*., 2017). In these patients making a wide circumferential base pedicle for the umbilicus long before dissecting close to the umbilical port maintains it vascularity and reduces the risk of injury to it pedicle during dissection. Liposuction has the added advantage of enhancing the desired contour. This upper abdomen and trunk liposuction further thinned the abdominal flaps giving the patient the desired shape. All the patients expressed satisfaction to the procedure. This is comparable to other series in which patients that had liposuction assisted abdominoplasty showed excellent to good results, in over 80% of cases. (Sayed *et al.*, 2020) (Brauman, 2003). The estimated blood loss from these procedures was between 400 to 600ml. None of the patients required blood transfusion. This is comparable to previous studies done, in which reduced blood loss was reported in abdominoplasty combined with liposuction. Sayed *et al.,* (2020), (Espinosa-de-los-Monteros, 2006). The reduced bleeding could be related to the vasoconstrictive effect of the adrenaline in the wetting solution for the liposuction. Meticulous dissection and haemostasis contributed to the decreased blood loss.

*Conclusion***:** Abdominoplasty combined with liposuction and abdominal herniorraphy as a single procedure is safe. It offers the patient the opportunity of having the hernia fixed and satisfies her aesthetic demand. The blood loss from this procedure is reduced due to the vasoconstricting effects of the wetting solution.

REFERENCES

Ahonen-siirtola M, Rautio T, Ward J, Ko J. (2015). Complications in laparoscopic versus open incisional ventral hernia repair. A retrospective comparative study. *World J Surg*. 39:2872–2877.

Brauman D. (2000). Lipoplasty: a case for a low-volume procedure. *Aesth Surg J*. 20:373–379.

Brauman D. (2003). Liposuction abdominoplasty: an evolving concept. *Plast Reconstr Surg*. 112:288–298; discussion 299.

Bruner TW, Salazar-Reyes H, Friedman JD. (2009). Umbilical hernia repair in conjunction with abdominoplasty: a surgical technique to maintain umbilical blood supply. *Aesthet Surg J*. 29:333–334.

Cheesborough JE, Dumanian GA (2015) Simultaneous prosthetic mesh abdominal wall reconstruction with abdominoplasty for ventral hernia and severe rectus diastasis repairs. *Plast Reconstr Surg.* 135: 268-276.

Elbag JS, Flageul G. (1979). Plastic surgery of the abdomen. New York: *Masson*: 42.

Espinosa-de-los-Monteros, Antonio, et al. (2006) "Abdominoplasty with total abdominal liposuction for patients with massive weight loss." *Aesthetic plastic surgery* 30(1):42-8

Horowitza MI, Leitman IM. (2008). Risk factors for the development of incisional hernia following Roux-en-Y gastric bypass surgery. *Open Surg J*. 2:15–17.

Huges KC, Weider L, Fischer J, et al. (1996). Ventral hernia repair with simultaneous panniculectomy. *Am Surg* 62:678–681.

Kelly HA. (1910). Excision of the fat of the abdominal wall lipectomy. *Surg Gynecol Obstet.* 10: 229–31.

Kelly HA.(1899). Report of gynecological cases (excessive growth of fat). *Johns Hopkins Med J*. 10:197

Le Gall H, Reibel N, De Runz A, Epstein J, Brix M. (2017). Abdominoplasty and simultaneous laparoscopic ventral hernia repair. Clinical study about 45 patients. *Ann Chir Plast Esthétique*. doi:10.1016/j.anplas.2016.06.005

Olejek A. and Manka G. (2005). Panniculectomy in gynecologic cancer surgical procedures by using a harmonic scalpel *Acta Obstet Gynecol Scand*. 84: 690–694.

Ortega J, Navarro V, Cassinello N, Lled S. (2010). Requirement and postoperative outcomes of abdominal panniculectomy alone or in combination with other procedures in a bariatric surgery unit. *Am J Surg*. 200:235–240.

Robertson JD, de la Torre JI, Gardner PM, Grant JH III, Fix RJ, Vásconez LO. (2003). Abdominoplasty repair for abdominal wall hernias. *Ann Plast Surg*. 51:10–16.

Sayed A.T., Hota E. A., ElbheryA. Z. (2020) Liposuction assisted abdominoplasty. AIMJ. doi: 10.21608/aimj.2020.28808.1210

Shermak M (2006) Hernia repair and abdominoplasty in gastric bypass patients. *Plast Reconstr Surg*. 117: 1145-1150

Stoikes N, Roan E, Webb D, et al. (2018). The problem of seroma after ventral hernia repair. *Surg Technol Int*. 32:93–98.

Thorek M (1924) Plastic surgery of the breast and abdominal wall. Charles C. Thomas, *Springfield*, IL

Thorek M. (1939). Plastic reconstruction of the female breast and abdomen. *Am J Surg*. 43:268