OPEN ACCESS

Saudi Journal of Medicine

Abbreviated Key Title: Saudi J Med
ISSN 2518-3389 (Print) |ISSN 2518-3397 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com/sjm

Original Research Article

Anterior Abdominal Dermolipectomy: Epidemiological and Clinical Profile (About 50 Cases)

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DOI: 10.36348/sjm.2020.v05i05.005 | **Received:** 11.05.2020 | **Accepted:** 18.05.2020 | **Published:** 23.05.2020

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Abstract

Introduction: the demand for abdominoplasty is increasing. It is a set of surgical procedures aimed at improving the abdominal wall for aesthetic and/or functional purposes. The aim of this work is to highlight the epidemiological and clinical profile of patients who are candidates for abdominoplasty and to evaluate the therapeutic results as well as the complications of the technique of lower transverse abdominal dermolipectomy with transposition of the umbilicus. ***Materials and Methods*:** Fifty lower transverse abdominoplasties with transposition of the umbilicus, associated or not with liposuction, were performed between June 2016 and September 2018 in the plastic surgery department of the Military Hospital of Meknes. ***Results:*** Forty-seven women and three men were counted. The mean age was 42 years. The majority of our patients were overweight (88%). All of our patients underwent a transverse low abdominoplasty with umbilicus transposition. Associated liposuction was performed in 36 patients (72%), and muscle plasty in 30 cases. A two-sided plaque was placed in the 4 cases of eventration. The frequency of immediate postoperative complications was 22% in our series. Hematomas requiring revision surgery (8%) and infection (4%) were the most frequent major complications. ***Discussion:*** Recent advances in abdominal plastic surgery currently allow satisfactory management of patients who come to consult for weight loss, pregnancy or aesthetic concerns. The technique of low transverse abdominoplasty with transposition of the umbilicus has become perfectly standardised, but it should not be forgotten that it is not devoid of risks. The knowledge and management of possible complications are as important as the surgery itself.

Keywords: Anterior abdominal dermolipectomy, treatment outcome, complications.

INTRODUCTION

Abdominal cosmetic surgery has long been considered by surgeons as relatively complex. However, advances in surgical technique and pre- and post-operative management have contributed to the development of this surgery, which is now reliable and reproducible [1]. The techniques are multiple and varied, the aim of lower transverse abdominal plasty or anterior dermolipectomy with transposition of the umbilicus is to remove excess skin and fat under the umbilicus, liposuction and myorraphy of the right muscles are the most commonly associated procedures [2, 3]. The result is satisfactory in 29.1% of cases according to Chaouat *et al*., [4], however there are defects, insufficiencies or complications that require surgery. The aim of this study is to define the epidemiological and clinical profile of patients who are candidates for a transverse lower abdominal plasty, while underlining the principles of the different stages of this surgical technique through the analysis of the results of the operated patients.

MATERIALS AND METHODS

We conducted a retrospective study of 50 patients who underwent a transverse low transverse abdominoplasty with umbilicus transposition with or without liposuction and or eventration treatment, collected in the plastic surgery department of the Moulay Ismail Military Hospital between June 2016 and September 2018.

The study variables that we collected from the files were:

- Demographics including sex, age, preoperative body mass index (BMI), co-morbidities.
- Presence of umbilical hernia, eventration or diastasis.
- The type of anesthesia, repair of the musculoaponeurotic strap.
- The presence of immediate or late complications.

Information was collected from medical records and patients were contacted by telephone if data were missing.

We have excluded from this study:

- Other varieties of abdominoplasty (high transverse, vertical, circular...).
- Incomplete files.

RESULTS

Fifty previous dermolipectomies with umbilical transposition were included over this period. The patients included were mostly women (47 F/ 3 H). The mean age at the time of surgery was 42 years [23-62] (Figure-1). The mean parity was 3 children [0-5], 4% of the patients were diabetic and 14% hypertensive. 15 patients (30%) had a history of caesarean section and 5 patients (10%) had a history of cholecystectomy. The mean preoperative BMI was 33 kg/m2 [25-45] (Figure-2). The mean length of hospitalization was 2.72 days.

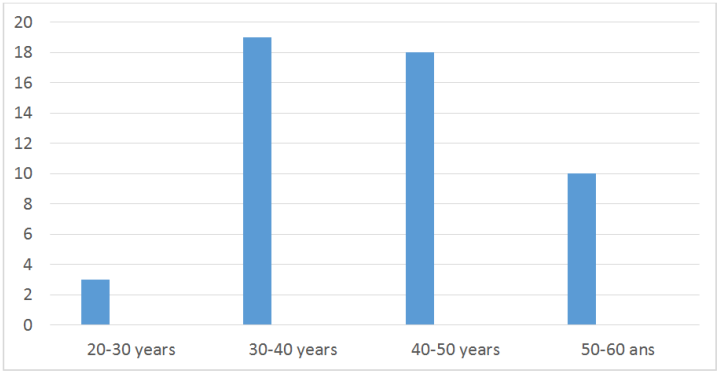

Fig-1: Distribution of patients by age group

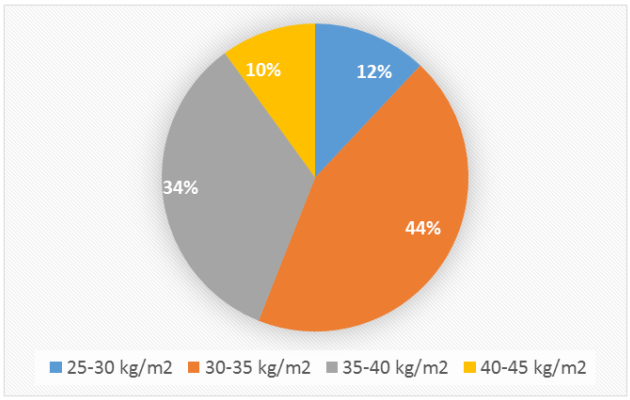

Fig-2: Distribution of patients by BMI

The surgical procedure was performed under spinal anaesthesia in 68% of cases (n=34), compared to 32% of cases (n=16) under general anaesthesia. Approximately two thirds of the patients (72%) benefited from liposuction at the same time of the operation (n=36). When it was performed, the lipoaspirated areas were mainly the above and under umbilical stage and the flanks. The mean amount of fat aspirated was 3l with extremes ranging from 1.5l to 7l. 60% of cases (n=30) benefited from diastasis treatment by plication of the rectus (Figure-3), 16% (n=8) of umbilical hernia and 8% (n=4) of umbilical hernia, and venting by placement of a two-sided plaque (Figure-4).

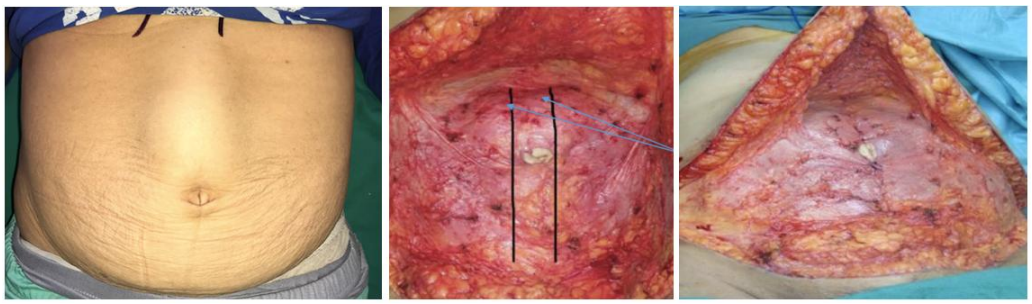

Fig-3: A: Evidence of diastasis during clinical examination, B: marking of the internal edges of the rectus abdominis, C: cure of diastasis by plicature of the fascia of the rectus abdominis

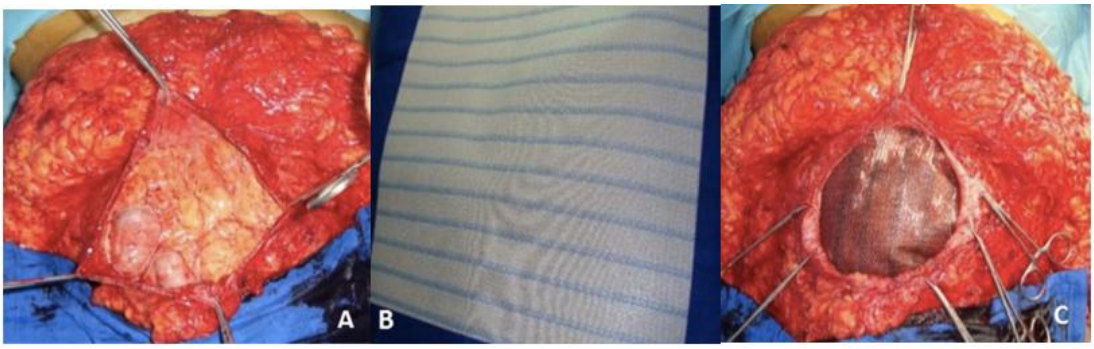

Fig-4: A: Dissection and opening of the eventration bag with release of adhesions; B: two-sided plaque (30*30); C: intraperitoneal placement and fixation of the plaque

The recommendations of the French Society of Anaesthesia and Resuscitation (SFAR) concerning intraoperative antibiotic therapy and postoperative anticoagulation were used. All the operators set up drainage redons until a yield of less than 50 cm3 per 24 hours was obtained.

We found 22% immediate complications (n = 11). The most frequently found complications were surgical revision for haematomas (8%), infection, seroma and scar disunion were noted in 02 patients, 4% of cases for each. Furthermore, no thromboembolic accident or death was noted (Figure-5).

Late complications were present in 28% of patients. Lateral excess skin (Figure-6) was the most common complication noted in 24% of cases. Hypoesthesia and skin necrosis were not observed (Figure-7).

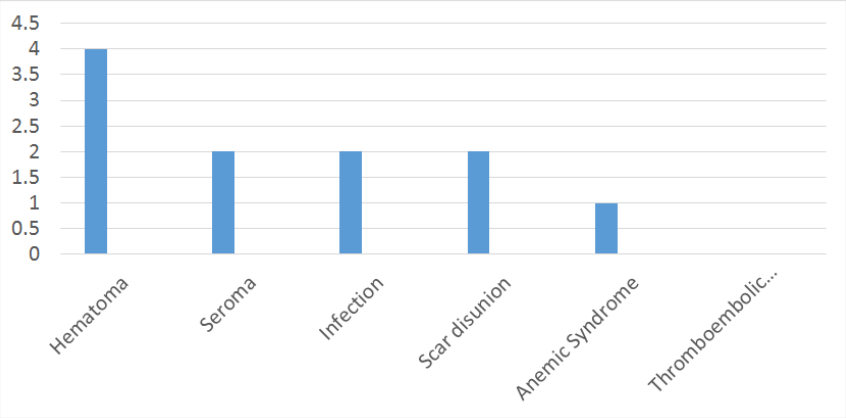

Fig-5: Immediate complications observed in our patients

Fig-6: Image showing lateral skin excess

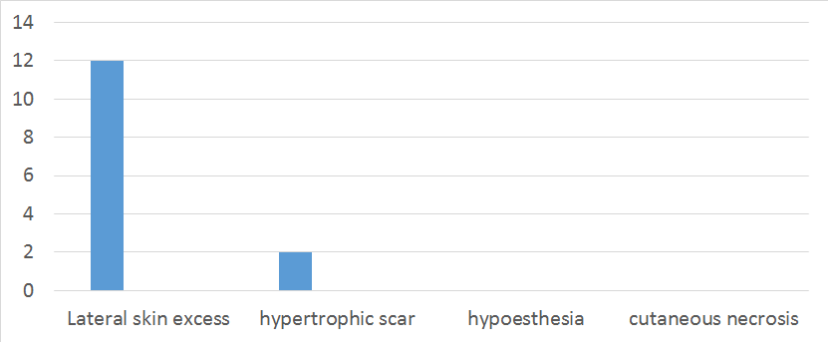

Fig-7: Late complications observed in our patients

DISCUSSION

Anterior abdominal dermolipectomy is a frequent and well-codified procedure. It was described by Kelly in 1899 [5]. Many articles have detailed the results and complications of abdominal lipectomies [6-9].

Gallagher *et al.*, [10] showed that body composition changes with age and sex (decreased lean body mass and increased fat mass). For the same BMI of 23 kg/m2, the percentage of fat mass in a 20-year-old woman averages 26% compared to 13% in a man of the same age, which is the case in our series.

Abdominoplasty is often requested in a particular population of patients who are overweight or have other associated defects, so a careful history is required. Pregnancies predispose to distension of the musculoaponeurotic component of the abdominal wall (diastasis of the rectus abdominis). Liaw *et al.*, [11] and Coldron *et al.*, [12] have provided evidence that diastasis is pregnancy-related and persists postpartum. In our series, 60% of patients had diastasis with an mean parity of 3 children.

Smoking and diabetes increase the risk of complications (skin necrosis and scarring problems...) this has been demonstrated by Hensel et al. [13] in our series none of our patients were smokers so no complications of necrosis were noted.

Liposuction and its most recent developments made it possible to treat excess abdominal fat, it also offered the possibility of generating significant skin retraction, even in the presence of average quality skin. Despite previous dermolipectomies with umbilicus transposition, it is still indicated in particular in the presence of skin laxity or an anomaly of the musculoaponeurotic plane [2]. This does not contraindicate the combination of the 2 techniques. Moreover, liposuction allows a better definition of the silhouette by treating lipomeria not accessible to resection. Liposuction also helps to thin the supra-umbilical flap and facilitate its lower translation for less lateral detachment. Finally, performed under the subumbilical flap to be resected, it preserves the lymphatic vessels and reduces the incidence of postoperative seroma [14].

Heller *et al.*, [15] reported in 2008 that transverse abdominoplasty combined with extensive liposuction and limited supra-umbilical "tunnel" dissection produced fewer complications than traditional abdominoplasty.

Samra and al. found no increase in complications when liposuction was combined with abdominoplasty, even in high-risk patients [16].

Specifically with regard to seroma, Kim and Stevenson [17] reported a rate of 29% for lipoabdominoplasty versus 38% for traditional abdominoplasty.

In our series, 72% were operated by abdominoplasty associated with liposuction while only 4% of patients had seroma as a complication.

Anterior abdominal dermolipectomies are risky procedures, particularly because of the areas of detachment and the duration of the operation. Thromboembolic complications are the most dreaded because they are potentially fatal [18]. Preventive measures help to reduce their incidence (early lifting, wearing support stockings, anticoagulant treatment, stopping smoking and hormone treatments one month before the operation). We adopted the same attitudes in our series so we did not have any thromboembolic complications.

Hematoma is the most frequent major complication [19] (8% in our series). It requires systematic surgical resection in the operating theatre to avoid deglobulisation or superinfection of an aged haematoma. To reduce this risk, the following technical procedures can be used [20]:

- The use of adrenaline (1mg/litre) in the infiltration of the operated areas, especially under the incision and liposuction areas.
- The use of the electric scalpel in coagulation at high power as soon as the dermis is passed through the skin
- Do the hemostasis step-by-step.

- Check the haemoglobin level at least one month before the operation.
- Shortening of the operating time by precise coding of the operation.
- Tightly cap the detachment plane to close the dead space as much as possible.
- Postoperative compression through the abdominal sheath.

Seroma is a fairly common complication (4% in our series). Described by Morel-Lavallée in 1853, its causes are still unclear, although disturbance of the lymphatic ducts, dead space formation, and shear forces between the abdominal flaps and the fascia have been implicated [2]. Its prevention involves [20]:

- Respect for the lymphatic system by choosing the right plane of detachment during dissection.
- The closure of dead spaces.
- Post-operative drainage.
- The application of the postoperative compression sheath.

Infectious complications that are infrequent usually require surgical revision with appropriate antibiotic therapy.

Cutaneous necrosis is favoured by the continuation of smoking intoxication and/or tension sutures. They are most often found in areas of maximum tension (lateral midpoints and posterior midpoint) [21].

Lateral ears are common due to persistent excess skin and fat that may be masked intraoperatively by the dorsal recumbency or resulting from a defect in the resection. J. Gliksman *et al*., found 32% lateral ears [22], 24% in our series. Most of the time, surgical revision at the request of the patient at 3-6 months by an excision by lengthening the scar laterally. Preliminary liposuction may also be of interest [20].

CONCLUSION

The progress made in the field of lower transverse abdominal dermolipectomy should not obscure the fact that this is a risky procedure. Even if we have a better and better control of the cosmetic results and thromboembolic complications, there are still many complications that sometimes require a secondary abdominal plasty.

Conflict of Interest: The authors declare that they have no conflict of interest.

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