

Cruroplasty or medial thigh lift surgery the experience of our department

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ABSTRACT Medial thighplasty is a surgical technique that reduces excess skin and fat in the medial part of the thighs and improves at the same time the skin quality and tone. Because of the changes which occur with age and weight loss, the skin and subcutaneous tissue of the medial thigh region show relaxation from the loss of tone and elasticity, with inevitable ptosis of the tissues. Medial contouring of the thigh is frequently requested to improve appearance and function of medial thigh deformities, following massive weight loss or the ageing process. This surgical procedure can be associated with a significant rate of complications, especially postoperative oedema and scar migration, improved by performing simultaneous liposuction and anchorage sutures to guard against the effect of heavy skin flaps.

A total of 13 female patients presented during the period from January 2014 to March 2019 complaining of moderate to severe thigh laxity with or without lipodystrophy. In 10 patients, medial transverse thigh lift was performed, when the laxity was mainly in the upper half of the thigh. Whereas, in the other three patients a vertical thigh lift was chosen considering the location of the laxity that takes the whole thigh. In both groups aggressive liposuction was performed and systematic anchorage suture to the Colles fascia. All patients recovered well in 2 weeks and showed improvement of thigh contour. No Scar downward displacement or no skin necrosis or seroma was encountered neither labial distortion. The objectives of this article are to expose the modern techniques of a facelift of the thigh, to specify the expected results with their limits, as well as to highlight the various complications with their management.

KEYWORDS Medial thigh lift, Body contouring, Scar migration, liposuction assisted

Background

Medial thighplasty, also known as a medial thigh lift, is a procedure that has been carried out for five decades. The original technique described by "Lewis" has undergone many changes and thereby been rendered widely available to plastic surgeons.

Medial thighplasty is an aesthetic reshaping of the thigh after removal of excess medial skin and fat. This surgical technique may be limited to the upper thigh by a horizontal excision adjacent to the labia majorum (or scrotum) or extended with an

ellipse vertical excision reaching the knee for distal deformity — this procedure, which was often unpopular with surgeons on account of frequent postoperative complications. Since the first description, numerous improvements of the surgical technique has allowed safe and efficient surgical correction of deformities. One of these techniques consists in one hand in anchoring the superficial fascia to Colles' fascia, and in another hand simultaneous liposuction.[7,8].

In the present study our main target is patients who suffer different degrees of thigh lipodystrophy with skin laxity, and they were not candidates of bariatric surgery before. Performing thigh lift to those patients is always facing the problem of heavy skin flaps.

Material and methods

During the physical examination of the patient, it is necessary to evaluate the quality of skin (degree and extent of the laxity)

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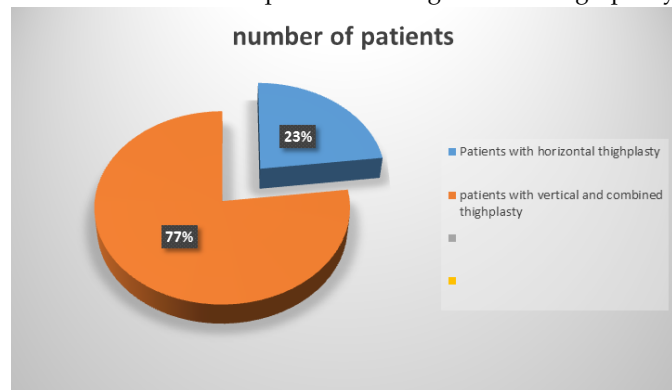
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Table 1: Statistic of patients having medial thighplasty.



and the soft tissue excess (degree and location). Once these factors essential, the most appropriate surgical procedure is chosen. Moreover, it is essential to examine and rule out deep vein problems.

Thirteen female patients presented during the period from January 2014 till March 2019 complaining of moderate to severe thigh laxity with or without lipodystrophy. Their age ranged between 25 and 58 years with body mass index less than 38. Patients with massive weight loss were not included in the study. In 3 patients with Grade 2 on Pittsburgh Scale, in whom the medial thigh touches. We performed thigh lift with a vertical scar, in 10 patients with Grade 3 on Pittsburgh Scale, with cutaneous and fat excess extending beyond the junction of the upper and middle thirds of the thigh the two procedures were combined. When it was essential, we also did the liposuction of the whole thigh with aggressive liposuction interesting the area that will provide Table I.

All patients were given general anaesthesia in a supine position, and antithrombotic compression sleeve was applied.

Liposuction was carried out subfascial throughout the inner thigh and suprafascially in the resection area, skin thickness was kept not less than 1.5 cm, the operation is concluded by cutaneous resection under the dermis where the excess skin was pulled over in one piece, fixation of anchor points at Colles' fascia and finally closure on several surgical plans. Those particular points allowed us to conserve the blood and lymph vessels and to reduce the incidence of some frequent complications as post-operative seroma and lymphedema and scar migration. Stay sutures were used to identify the appropriate direction without crumbled skin.

After careful haemostasis, deep subcutaneous anchoring sutures of 2/0 PDS or Vicryl were used to fix the lower skin flap to the lower border of inguinal ligament or Colles' fascia, and the adductor muscles fascia. Finally, the skin was closed using 3/0 Vicryl or PDS sutures. Suction drains were put systematically.

Results

Three patients underwent extended medial transverse thigh lift, and ten patients underwent vertical medial thigh lift with liposuction of the anterior thigh and aggressive liposuction of the part that will be removed to preserve the connective tissue containing not only the blood vessels but also the lymph vessels. Thereby reducing the risk of postoperative seroma and lymphoedema. And fixation of the inferior flap into the colls fascia; to prevent the scar migration.

The volume of liposuction ranged between 3 and 5 l. Oper-

ative time in the medial transverse thigh lift ranged between 3 and 4 h, while in the vertical thigh lift was 4–5 h.

Hospital stay ranged around five days. Drains were used in the vertical lift specially and were removed after two days and sutures were removed after two weeks. Table: II

No skin necrosis or seroma was encountered either labial distortion or separation.

All patients recovered well within two weeks without wound complications.

Discussion

Pittsburgh rating scale Song et al. [4] have designed an all-inclusive and illustrative classification system that helps in quantifying the level of deformities. A four-point grading scale was designed for each region. Table III The Pittsburgh rating facilitates preoperative planning and is a useful tool in quantifying the improvement in appearance attributable to surgical manipulation.

Two types of patients were distinguished; on the one hand, patients with cutaneous ptosis related to ageing and predominating in the upper third of the thigh. These deformities are corrected by the classical horizontal scar technique [9,10]; in other hand patients with cutaneous and fat excess of the entire thigh related to weight loss, in this case a horizontal technique will not yield satisfactory results so, in addition, we may be obliged to perform vertical scar techniques.

Cruroplasty has noticeably evolved since it was first described by Lewis [1]. The two significant technical advances were Colles' fascial anchoring [11,12], and aggressive liposuction [13], Figure: 1 after that cutaneous necrosis and seroma becomes an exceptional event. However, liposuction is far from being unanimously approved; some authors claim that it contributes to the appearance of wound infections.

Given the fact that the majority of wound dehiscence takes place in the inguinal folds, it matters to insist to the patient on the need for rigorous personal hygiene, which will help to minimize any staining or soiling arising from sutures. Conservation of a urinary catheter during hospitalisation can likewise help to limit soiling and palliate the urinary discomfort, particularly for women. It is interesting to note that when liposuction is not applied during operation and when classical full-thickness surgical resection is performant, an elevated rate of lymphedema has been reported [2,9], unlike the extensive liposuction technique [14], that conserve the integrity of the blood and lymph system. Colles' fascial anchoring, which has been supplanted by some teams with fixation of the periosteum to the ischiatic bone, we consider it to be just as reliable a way of preventing scar migration and ptosis recurrence without generating occasionally considerable postoperative pain. Moreover, given the weight of gravity, the absence of deep-seated anchoring is systematically associated with downwards scar migration. Fascial anchoring consequently appears to be a fundamental factor in improvement of patient satisfaction; it should be added that while patients are customarily forewarned about uncertain post-operative aesthetic outcomes, they often remain quite demanding. And scar migration outside of women's underwear is not only hard to accept but also an evident source of discontent. Due to these technical improvements, medial thighplasty has gained incidence of obesity we are confronted to a massive flow of new patients presenting with significant cutaneous deformities interesting the whole thigh, which means more often we propose application of the vertical rather than the horizontal

Table 2: Results combining the number; liposuction volume; operative time and complication.

	Number	Liposuction volume	Opérative time	Hôpital stay	complication
<i>medial trans-verse thigh lift</i>	3	3-4L	3-4H	5days	No skin necrosis No scar migration No labial distortion No oedema
<i>vertical me-dial thigh lift</i>	10	3-5L	4-5H	5days	No skin necrosis No scar migration No labial distortion No oedema Suture disunion in T junction

Table 3: Surgical indication based on the Pittsburgh rating scale.

<i>Grades of Pittsburgh rating scale</i>	<i>Surgical indication</i>
<i>Grade 0: normal range</i>	
<i>Grade 1: mild deformity</i>	<i>non-excisional or a minimally invasive procedure</i>
<i>Grade 2 : moderate deformity</i>	<i>excisional procedure</i>
<i>Grade 3: severe deformity</i>	<i>combinations of excision and lifting</i>

Table 4: Surgical indications for the horizontal and the vertical scar technique

<i>Indication</i>	
<i>Cutaneous ptosis related to ageing Predominating in the upper third of the thigh.</i>	<i>Massive weight loss following a diet deformities at locations ranging from cutaneous and fat Excess of the upper third of the thigh to excess on the thigh in its entirety</i>
<i>Horizontal scar technique</i>	<i>Vertical scar technique</i>

Table 5: Preoperative marking

<i>Surgical</i>	<i>Technique</i>
<i>Horizontal technique preoperative marking</i>	<i>Vertical technique preoperative marking</i>
<i>A line is marked between the anterior superior iliac spine and the pubic tubercle to delineate the inguinal ligament; another line was marked 1–2 cm below and parallel to the above line defining the proposed incision line. The medial end of the incision line was directed posteroinferior 3–4 cm away from the labial edge. The lower excision line was marked while pulling the lax skin up without tension both during thigh abduction, adduction and external rotation</i>	<i>The pinch test is used to mark the skin ellipse. The centre of this ellipse was laid posterior to the meridian of the thigh and began just behind the medial condyle of the knee and extended vertically in a posterior direction to the perineum. The upper end of the ellipse stopped 3–4 cm below the edge of the labia majora</i>



Figure 1: Aggressive liposuction.

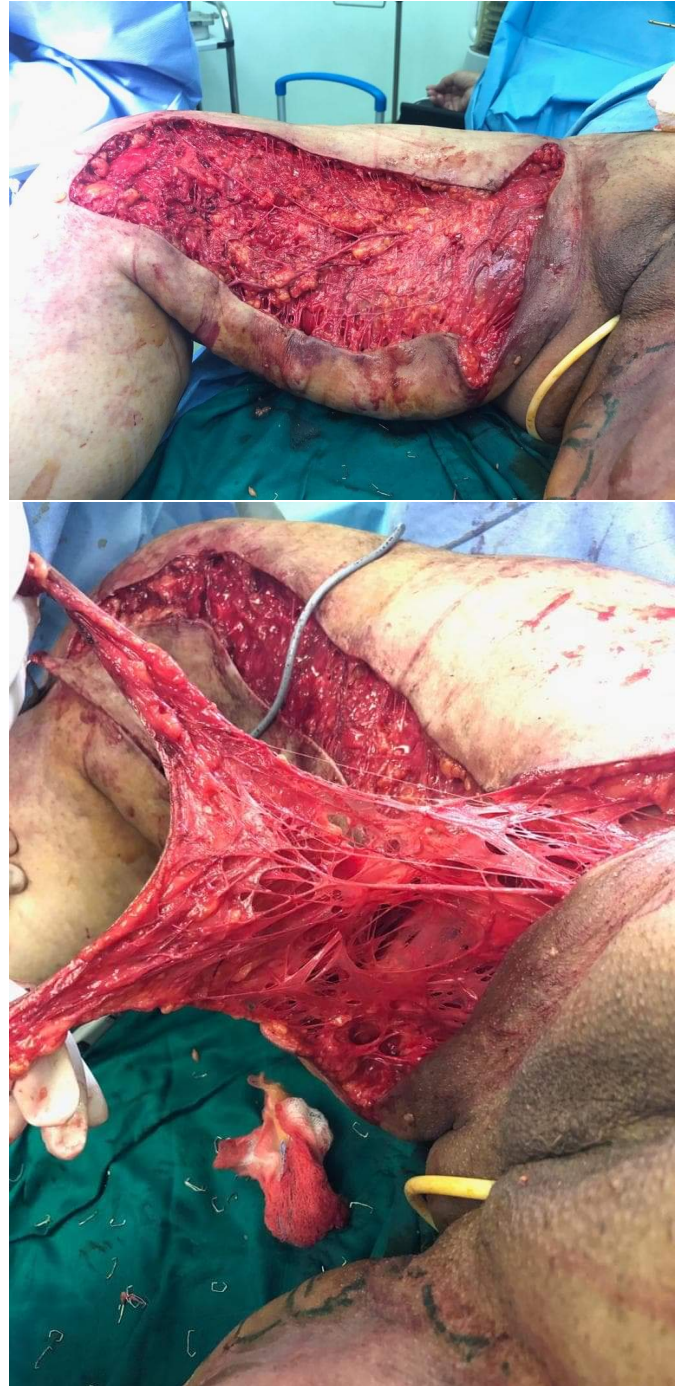


Figure 2: The skin flap is rolled up to respect the subfascial vessels.

scar technique. We prefer vertical inverted J-scar techniques to T techniques because they avoid classical cutaneous suffering at the T junction. However, to minimize the risk of complications such as lymphoedema or seroma and the lack of satisfaction, without overlooking the “horizontal” technique, whenever it is indicated. Monoblock resection techniques are considerate as obsolete; if we wish to improve the postoperative results, they should be ruled out. Figure: 2. When these techniques are still applied, it is essential to respect the subfascial fat containing the saphenous vein whose traumatization is considered as a source of lymphoedema [3,4].

Given the fact that the majority of wound dehiscence takes place in the inguinal folds, it matters to insist to the patient on the need for rigorous personal hygiene, which will help to minimize any staining or soiling arising from sutures. Conservation of a urinary catheter during hospitalisation can likewise help to limit soiling and palliate the urinary discomfort, particularly for women.

And finally, wearing a medical Lipo Panty, immediately after surgery helps to reduce oedema and limit the risk of wound dehiscence. As for thromboembolic complications, they can be prevented by respecting an early rising, wearing compression stockings, and prophylactic anticoagulation by low molecular weight heparin for 15 days.

Conclusion

Medial thigh lift is a procedure, which is often unpopular with surgeons on account of frequent postoperative complications, is aimed at correcting the cutaneous and fat excess in the inner thigh. Since the first description, numerous improvements of the surgical technique have heightened outcome predictability and lowered the rate of postoperative complications. One of these techniques consists of anchoring the superficial fascia to Colles' fascia [5], leading to reduction of postoperative cutaneous ptosis and limiting the risks of vulvar widening. Another adjunctive technique consists of liposuction, which helps to reduce postoperative seromas and lymphoedemas [6,15].

Conflict of Interest

None

Funding

None

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