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Satisfaction and complications after lower body lift with autologous gluteal augmentation by island fat flap: 55 case series over 3 years

Antoine de Runz [a,b,*], Muriel Brix [a,b], Heloïse Gisquet [c], Julien Pujo [a,b], Christophe Minetti [a,b], Thomas Colson [a,b], Thomas Sorin [a,b], Nelly Agrinier [d], Etienne Simon [a,b]

[a] *Nancy University Hospital, Department of Maxillofacial, Plastic, Reconstructive and Cosmetic Surgery, 54000 Nancy, France*
[b] *University of Lorraine, 54000 Nancy, France*
[c] *Clinique de la Ligne Bleue, 88000 Epinal, France*
[d] *CHU Nancy, Epidémiologie et Evaluation Cliniques, Nancy F-54 000, France*

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Summary *Background:* Major weight loss causes body deformities. Lower circumferential dermolipectomy with autologous gluteal augmentation by a fat island flap can restore a part of the body contour, but this procedure is associated with a high incidence of complications. The aim of this study was to analyse the benefit/risk ratio and the patients' satisfaction.
Methods: All patients who underwent this procedure at the Nancy University Hospital over a 3-year period (between January 2010 and 2013) were reviewed; the complications were analysed and the patients' satisfaction rated.
Results: A total of 55 patients were included with a mean age of 41.0 years. The average body mass index of the patients was 28.2 kg/m^2 with a mean weight of 76.8 kg at the time of the procedure and a mean weight reduction of 49.6 kg. The mean operative time was 4.85 h. The average hospital stay was 6.1 days. The average haemoglobin loss was 3.0 g/dl, and 12 (21.8%) patients required a blood transfusion.

Of the total number of patients, 22 (40%) developed at least one complication, including six (10.9%) major complications.

Fifty-two patients answered the questionnaire; 49 (94.2%) patients would go through this procedure again. The overall satisfaction was rated as excellent by 29 (55.8%) patients and as pleasing by 22 (42.3%). The outcome was judged as excellent or pleasing for the abdomen

* Corresponding author. Service de Chirurgie Maxillo-Faciale, Plastique, Reconstructrice et Esthétique, Hôpital Central, 29 avenue du Maréchal de Lattre de Tassigny, 54000 Nancy, France. Tel.: +33 (0) 3 83 85 12 88.
E-mail address: aderunz@gmail.com (A. de Runz).

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by 29 (55.8%) and 20 (38.35%) patients, respectively, and for the buttocks by 17 (32.7%) and 29 (55.8%) patients, respectively. The quality of life was rated better after than before the intervention by 49 (94.2%) patients.
Conclusion: Despite a high complication rate, the majority of patients confirmed that they would opt for this procedure again, showing an improvement in their quality of life with an aesthetic and functional benefit.
Level of evidence: III.

Introduction

Obesity and overweight are a growing global health problem, As of 2008, the World Health Organization[1] estimated that at least 500 million adults aged 20 and older (11%) were obese and 1.4 billion were overweight. In England, there was a marked increase in the proportion of adults who were obese from 13% in 1993 to 24% in 2011 for men and from 16% to 26% for women.[2] Accordingly, increasingly more patients are undertaking significant weight loss. However, major weight loss generates body deformities, which may then lead to functional problems and psychological distress, offsetting the benefits brought about by weight loss.[3–5] Therefore, the demand for body-contouring surgery is steadily increasing.[6–9] Lower circumferential dermolipectomy removes truncal skin redundancy and lifts sagging tissue from the lower back and gluteal region; it can be associated with liposuction and an autologous fat reinjection to correct lipodystrophy. In spite of the removal of the lax skin, the buttocks will still be flat, square shaped and ptotic with a deficient projection. Autologous gluteal augmentation with a fat island flap restores the gluteal contour.[10–13] A high complication rate and a lengthy surgical procedure time can be expected during this procedure. It follows that the benefit/risk evaluation should be clearly defined for each patient for this high-risk surgical procedure. There are several studies assessing quality of life (QOL) and patient satisfaction following body-contouring surgery.[14–24] They demonstrate improvements in QOL associated with body-contouring surgery following weight loss. However, none of them assess the patients' satisfaction specifically after lower body lift with gluteal augmentation.

The aim of this study was to describe the satisfaction and the complications inherent in a lower body lift with autologous gluteal augmentation by gluteal island flap.

Patients and methods

A 3-year study (between January 2010 and 2013) was performed including all patients who underwent a lower body lift with a gluteal island flap.

The complications were identified and classified as either major complications (thromboembolic or surgical revision) or minor complications (seroma, wound dehiscence, haematoma and surgical site infection).

Satisfaction was assessed using a questionnaire with minimal hindsight of 6 months after the surgery. The first question was: "Would you undergo this intervention again?" The second question was: "How do you rate your overall satisfaction?" The results for the abdomen and the buttocks were assessed with the questions: "How do you rate the outcome for the abdomen?" and "How do you rate the outcome for the buttocks?" The effect on QOL was examined by the question: "Is your quality of life better after the intervention than before?" Finally we asked how the patients considered the intervention: "How do you feel the scale of the intervention?"

Statistical analyses were performed using SAS/STAT® software. We used the chi-squared test (or Fisher's exact test when appropriate) for qualitative variables and the Student's *t*-test (or rank test) when appropriate for quantitative variables. The first-order risk was set at 5%.

Three surgeons practised the surgical procedure previously described by Le Louarn and Pascal.[10–13,25–27]

Preoperative planning

During the first consultation, after a complete preoperative history and a clinical examination, a detailed description of the operation was given to the patient. Clinical photographs were taken and the patient was given a document to explain the procedure and its aftermath. Patients should maintain a stable weight for at least 3 months and be followed up by the nutritional medicine department. The patients were seen for a second consultation, at least 2 weeks later, for a final assessment. Iron supplements were prescribed 1 month before the procedure and, if necessary, a hyper-protein diet. Smokers were asked to give up smoking 6 weeks before, until 1 month after surgery. They were referred to the stop-smoking management programme to support their weaning approach.

Preoperative marking

Precise preoperative markings (Figure 1) are drawn the day before the surgery:

- Four lateral marks:
  - A vertical line is drawn along the midaxillary line.
  - The iliac crest
  - The height of the upper resection line at the midaxillary is determined keeping in mind the type of