Obesity Surgery (2019) 29:1644–1646
https://doi.org/10.1007/s11695-019-03742-6

LETTER TO THE EDITOR

The Assessment of a Predictive Risk and a Decrease Postoperative Complication Following Body-Contouring Surgery After Massive Weight Loss

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Published online: 30 January 2019

We read with great interest the manuscript entitled "What is the impact of comorbidities on the risk for postoperative body-contouring surgery complications in postbariatric patients?" by Rosa et al [1]. We would like to congratulate the authors for their work and their conclusion which confirms and reinforces others' previous findings [2–4]. The authors aimed to evaluate the impact of diabetes, arterial hypertension, dyslipidemia, and metabolic syndrome on the occurrence of postoperative complications following body-contouring surgery. Diabetes, dyslipidemia, and metabolic syndrome were risk factors for postoperative complication in univariate analysis, and the multivariate analysis did not confirm those findings.

We would like to discuss some points related to this article and to provide insight based on our experience in order to develop future studies about postbariatric body-contouring surgery. Two challenges remain. First of all, we have to clearly identify risk factors for postoperative complication to select better candidates and perform a safer surgery. Secondly, improvement of our traditional surgical techniques has to be adapted to massive weight loss patients.

To begin with, does the plastic surgeon have clear data about the patient's characteristics to take the decision to operate or not? Ideally, we should be able to cipher the perioperative risk and take an informed decision with the patient instead of a speculative one. Clinical data such as age, sex, body mass index, high blood pressure, diabetes, and smoking status are easily collected. Unfortunately, as illustrated by this study, comorbidities are not stringent reasons to reject the surgery. It is interesting to note that high blood pressure is not a risk factor for complication in massive weight loss patients as previously reported. This beautiful study demonstrates that diabetes and metabolic syndrome are not preoperative risk factors and therefore biological examinations are not mandatory to discuss the operative indication. We reported a meta-analysis of risk factors for circumferential lower trunk body contouring and those factors did not appear to be at risk but the large heterogeneity of reported data in studies made the statistical analysis subject to caution, which is why we did not report it [5]. It is highly likely that more complex causes can increase postoperative complication risks. For example, do authors have any idea about diabetes characteristics (HbA1c? or medications?) or nutritional status? Those data could have constituted inevitable bias when they conducted their analysis.

What is more, following massive weight loss, patients present a circumferential skin excess and lower body lift seems more adapted than abdominoplasty to this sub-population. However, it is a long operative procedure with a high level of morbidity. In this study, the authors performed abdominoplasty with a traditional undermining. Over the last two decades, liposuction has been increasingly used in combination with body-contouring surgery. It was first described for the abdomen by Saldanha in

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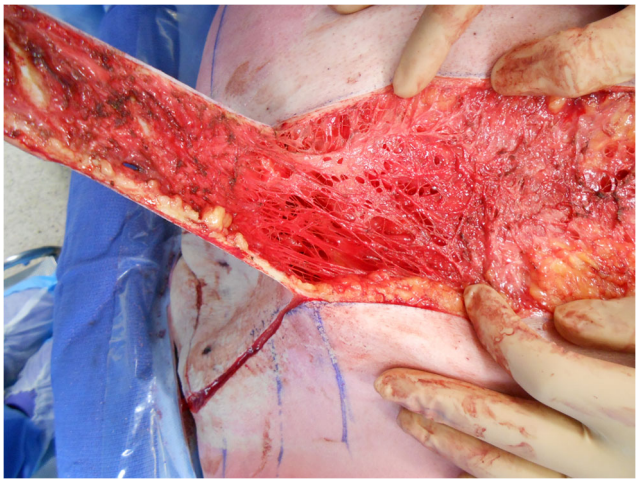

Fig. 1 After liposuction, the connective tissue and microvessels are partly preserved

2001 [6] among a normal weight population. This technique avoids undermining by performing an extensive liposuction and removing the skin just under the derm. This principle has been applied to medial thigh lifts and brachioplasty to prevent the apparition of postoperative complications and is currently the surgical gold standard for these areas (unlike the abdomen). Our team showed that after liposuction, the connective tissue (Fig. 1) and microvessels are partly preserved and so might the microvascular function be [7]. This possible better preservation of the tissue by liposuction can explain why many surgeons describe a lower complication rate when using a combined approach. We developed this principle in circumferential lower trunk reconstruction with encouraging results [8]. In our opinion, this combined technic is particularly adapted to patients who present only a vertical excess as well as patients operated by the "classic" technique of the authors. The demographic data of our patients are similar to those of Rosa's series (Table 1). In our 90 last Lipo-Bodylift, 28 patients experienced a complication (31.10%), among which only one hematoma necessitated a re-operation. The main complication was wound dehiscence ($n = 25$). In our practice, we reduced our rate of complication proportionally to the reduction of the operating time due to the learning curve and the adjunct of a power-assisted liposuction since the 26th patient. In our series, only the smoking status ($P < 0.01$) and the operative time ($P = 0.03$) were found to be risk factors for postoperative complications unlike diabetes ($P = 0.52$) and high blood pressure ($P = 0.42$). The feasibility and the safety of the Lipo-Bodylift method encourage us to propose this technique in first-line treatment for vertical abdominal sequelae in the lower trunk following bariatric surgery. This technique, particularly adapted to massive weight loss patients, presents encouraging results that need to be confirmed by randomized controlled trial.

Finally, the increasing incidence of obesity and the use of bariatric surgery makes it urgent to establish international guidelines to standardize and optimize practices of body-contouring surgeries. Authors reported important findings which deserve to be improved by other prospective studies to better define preoperative risk factors for overall complications after abdominoplasties and body-contouring surgeries. This would help classify patients into different groups and would allow surgeons to better select operative indications and techniques. Overall, combined procedures, which are probably safer than traditional undermining, could be considered in first intention among postbariatric patients. This is the reason why plastic surgeons should be fully involved in massive weight loss reconstructions.

Table 1 Patient and operative characteristics

Variable	Means	SD	Range
Patients	90		
Age (years)	40.22	± 10.57	21–66
Female sex ($n = 82$)	91%		
Pre massive weight loss BMI (kg/m^2)	45.64	± 5.85	35.84–60.84
Pre body lift BMI (kg/m^2)	26.37	± 2.81	20.55–31.63
Weight loss (kg)	52.2	± 16.25	22–90
Delta BMI (kg/m^2)	20.82	± 5.77	8.70–32.37
Tobacco use ($n = 26$)	28.90%		
High blood pressure ($n = 6$)	6.70%		
Diabetes ($n = 2$)	2.20%		
Overall complications ($n = 28$)	31.10%		
Major complications ($n = 1$)	1.10%		
Minor Complications ($n = 27$)	30%		

Compliance with Ethical Standards

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

Ethical Approval For this type of study, formal consent is not required.

Informed Consent Does not apply to this manuscript.

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