

# Augmentation mastopexy after bariatric surgery: evaluation of patient satisfaction and surgical results.

## *Mastopexia de aumento após cirurgia bariátrica: avaliação da satisfação das pacientes e resultados cirúrgicos.*

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### ABSTRACT

**Objective:** to evaluate patient satisfaction and surgical results obtained after mastopexy with breast implant inclusion. **Methods:** we conducted a prospective study of 20 consecutive female patients with a mean age of 39.9 years, submitted to augmentation mastopexy. We applied semi-directed psychological interviews pre and postoperatively. The answers to the evaluations were tabulated, categorized, and allowed patient satisfaction analysis. We evaluated surgical results through photographic analysis of three independent plastic surgeons, in the pre and postoperative periods, when scores were attributed to the following items: breasts shape, breasts volume, breasts symmetry, nipple-areolar complex position, and scar quality and extent. **Results:** nineteen patients (95%) referred satisfaction with the surgical results attained ( $p < 0,001$ ). The mean sum of the scores attributed by the three surgeons to each patient varied between 4.7 and 10, with an overall mean of 7.28. The results were considered good or great for 65% of the sample and poor for 8.4%. **Conclusion:** there was a 95% satisfaction rate among patients with the results obtained through augmentation mastopexy. The photographic analysis of the results obtained a mean score of 7.28, considered as a good result, albeit the weak correlation among evaluators.

**Keywords:** Mammoplasty. Breast Implants. Patient Satisfaction. Obesity, Morbid. Surgery, Plastic.

### INTRODUCTION

Post-morbid obesity plastic surgery resects the dermo-lipomatous excesses and improves body contouring. Brachioplasty, abdominoplasty, cruroplasty, rhytidectomy, mammoplasty and mastopexy are procedures that enhance self-esteem and reduce health-related problems of these patients, which can again be productive members of society<sup>1</sup>.

Breast ptosis and volumetric loss are common characteristics in women who had massive weight loss after bariatric procedures<sup>2</sup>. The mastopexy associated with breast implants insertion, also known as augmentation mastopexy, has proved to be an effective surgical solution in treating such dysmorphia<sup>3</sup>.

We conducted this prospective study to evaluate the satisfaction of patients and the surgical results obtained.

### METHODS

Patients (n=20, 100% women, mean age 39.9 years, range 21-63) underwent augmentation

mastopexy in a single operative time. All had undergone malabsorptive-restrictive bariatric surgery by the technique of Fobi-Capella<sup>4</sup>, between 19 and 96 months before plastic surgery, showed stable weight for a minimum of 12 months and had not had other plastic surgery before.

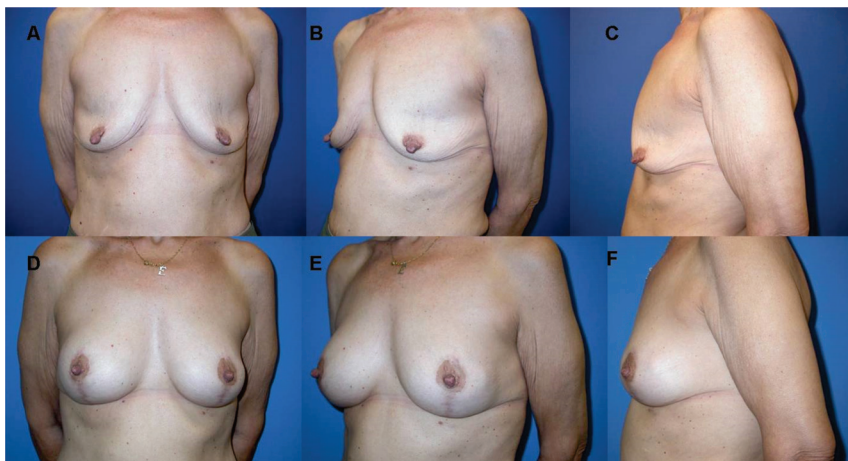
The average height of patients was 1.63m (1.56-1.70); the average pre-bariatric surgery body weight was 116.5kg (100-135); and the average pre-plastic surgery body weight was 68kg (57.5-78).

The mastopexies with inclusion of breast implants were not associated with other surgeries and were performed by the same surgical team, at the same institution, over a period of seven months.

### Patient satisfaction assessment

We invited the twenty patients to participate in semi-structured psychological interviews in the preoperative period and six months postoperatively. The interviews were applied by a single psychologist in a suitable environment, when patients were assured that nothing

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**Figure 1.** Mastopexy with inclusion of breast implants (volume: 240ml). Preoperative: A) anterior view; B) obliquely right; C) right profile. Postoperative: D) right view; E) right oblique; F) right profile.

would interfere in their treatment. After all interviews, open answers and spontaneous utterances were recorded and grouped by similarity, in categories, raised from the qualitative analysis. We then compared the answers obtained pre and postoperatively.

### Assessment of surgical outcomes

Surgical results underwent critical and qualitative evaluation based on the pre and postoperative photographic documentation (Figure 1).

A standardized questionnaire formulated by the author was sent to three plastic surgeons with experience in the surgical treatment of breast deformities after massive weight loss, who were unaware of the clinical cases to be evaluated. This questionnaire was accompanied by pre and postoperative photographic images in five positions: frontal, right oblique, left oblique, right profile and left profile.

The evaluators assigned values zero, one or two for each following item: shape, volume, symmetry, position of the areola-papillary complex and quality and extent of scarring. Zero score corresponded to bad result; one, regular; and two, good result<sup>5</sup>.

The sum of scores of the five items assessed varied between zero and ten. When the sum was between zero and four, the result was considered poor; five or six, regular or acceptable outcome. The sum of scores between seven and nine was considered a good result, and ten was considered optimal<sup>5</sup>.

## RESULTS

The interviews showed a positive interference of breasts plastic surgery in various sectors of the patients' life, as shown in Table 1.

Statistical analysis, by applying the McNemar test (Table 2), showed inferential results that proved a statistically larger percentage of patients satisfied after breast surgery (95%) when compared with the time prior to surgery (25% –  $p < 0.001$ ).

The volume of the breast implants ranged between 200 and 280 ml, with a mean of 236ml. The volume of 240ml was the most used, for eight patients. The mean operative time was 229 minutes, ranging between 170 and 300. Surgical interventions were not carried out before the postoperative results evaluation.

**Table 1.** Summary of the items evaluated in the pre and postoperative interviews.

Item assessed	Patients (n=20)	
	Preoperative	Postoperative
Result close to expectations	-	100%
Improved professional life	-	20%
Improved social life	-	60%
Improved affective life	-	50%
Improved sexual life	-	50%
Improved body comfort	-	60%
Satisfaction with own body	50%	50%
Improved body care	-	85%
Satisfaction with breasts	25%	95%

**Table 2.** Distribution of patients according to satisfaction with breasts before and after surgery.

		Satisfaction with breasts after surgery		TOTAL
		satisfied	unsatisfied	
Satisfaction with breasts before surgery	Satisfied	5 25%	- -	5 25%
	Unsatisfied	14 75%	1 5%	15 75%
TOTAL		19 95%	1 5%	20 100%

Two patients had postoperative complications. The first presented local hyperemia with serous secretion output through the surgical incision, was hospitalized and treated with intravenous antibiotics despite negative cultures for bacterial growth. The second patient presented dynamic asymmetry of the breasts at arms abduction, caused by a position of the left implant more cranial relative to the right one, which was addressed through surgical reintervention after postoperative evaluation.

The average of the sums of the grades given by the three surgeons for each patient varied between 4.7 and 10, and the overall average of the sums of the scores was 7.28.

The results were rated on average as good or excellent in 65% of patients, and bad in 8.4% (Table 3).

The intraclass correlation coefficient, estimated between the three surgeons for the final score, was 0.494, (95% CI 0.227-0.731), which confirmed a moderate reproducibility of the final grades among surgeons. The observed agreement between the three surgeons was 30% and the general Kappa coefficient was 23% (95% CI 6.6-39.4%), confirming a weak agreement among surgeons as to the final score.

## DISCUSSION

Plastic surgery after massive weight loss aims at resecting skin excess, facilitating personal hygiene,

increasing satisfaction with the body, improving sexual, social and interpersonal relationships, increasing self-esteem, and providing better quality of life<sup>6</sup>.

Various augmentation mastopexy techniques have been described to improve breasts shape and increase their volume<sup>7-9</sup>. It is characterized as a surgical procedure of difficult planning and low predictability of results<sup>10-12</sup>.

In the medical literature, there is conflict of views between performing the procedure in a single time or at different times, ie performing the mastopexy and later the inclusion of breast implants. Those who advocate the realization of mastopexy with the inclusion of implants in a single time cite as its advantages the lower physician and hospital costs, sole hospitalization and the low occurrence of additional surgeries. On the other hand, those who support the procedure at two different times cite as advantages the greater predictability of results and the possibility to associate procedures to refine results in the second surgical time<sup>3,13</sup>.

The use of nonrigid demarcation technique<sup>14</sup> provided more freedom to the nipple-papillary complex repositioning and the resulting scars. Eighteen patients had a scar in the shape of inverted T; one patient had an only vertical scar; and one only periareolar.

The histological changes that occur in the skin of patients with massive weight loss may be responsible for this discrepancy, being mainly characterized by the smaller

**Table 3.** Percentage of patients and their results.

Result	Surgeon 1 N (% patients)	Surgeon 2 N (% patients)	Surgeon 3 N (% patients)	Average
Poor	1 (5%)	1 (5%)	3 (15%)	1.7 (8,4%)
Regular	4 (20%)	5 (25%)	7 (35%)	5.3 (26,6%)
Good	12 (60%)	9 (40%)	9 (45%)	10.0 (50%)
Optimal	3 (15%)	5 (25%)	1 (5%)	3.0 (15%)

amount of elastin in the dermal matrix, which leads to lower retraction capacity and lower skin elasticity<sup>15</sup>.

An important data found in the qualitative evaluation was the improvement in body care, which occurred for 17 patients (85%), demonstrating that they had become more vain, began to better observe their own body and to be concerned with it.

In the postoperative period, 95% of patients demonstrated to be satisfied with the breast surgery ( $p < 0.001$ ). The only patient considered dissatisfied with the surgical outcome, in fact, was partially satisfied, longing for greater breasts volume.

The objective assessment of surgical outcomes seem difficult to achieve. Even with the grading by assessors with the same qualification, ie, experienced plastic

surgeons in the study subject, the assessment seems to be subjective and particular to each rater-observer. The weak correlation between the scores awarded by the evaluators does not invalidate the results, where only 8.4% of patients had poor results; and the overall average of the sums of the scores for all patients was 7.28, considered a good result.

In conclusion, the inferential results showed that there was a statistically higher percentage of satisfied patients after mastopexy with the inclusion of breast implants (95%) when compared with the preoperative period (25%). Surgical results, on average, were regarded as good, with the average of the sums of the scores assigned by the three assessors equal to 7.28, despite the poor agreement between them.

## R E S U M O

**Objetivo:** avaliar a satisfação das pacientes e os resultados cirúrgicos obtidos após a mastopexia com inclusão de implantes mamários. **Métodos:** estudo prospectivo com 20 pacientes consecutivas do sexo feminino, com média etária de 39,9 anos, que foram submetidas à mastopexia de aumento. Foram aplicadas entrevistas psicológicas semidirigidas nos períodos pré e pós-operatórios e cujas respostas foram tabuladas, divididas em categorias, e possibilitaram a avaliação da satisfação das pacientes. Foi realizada avaliação dos resultados cirúrgicos através da análise fotográfica por três cirurgiões plásticos independentes, nos períodos pré e pós-operatórios, que atribuíram notas aos seguintes itens: forma da mama, volume da mama, simetria entre as mamas, posicionamento do complexo aréolo-papilar e qualidade e extensão das cicatrizes. **Resultados:** dezoito pacientes (95%) referiram satisfação com o resultado cirúrgico obtido ( $p < 0,001$ ). A média das somatórias das notas atribuídas pelos três cirurgiões, referentes a cada paciente, variou entre 4,7 e 10, sendo a média geral de 7,28. Os resultados foram considerados bons ou ótimos para 65% da amostra e pobres para 8,4%. **Conclusão:** houve satisfação de 95% das pacientes com os resultados obtidos pela mastopexia de aumento. A análise fotográfica dos resultados obteve nota média de 7,28, caracterizado como bom resultado, apesar da fraca concordância entre os avaliadores.

**Descritores:** Mamoplastia. Implantes de Mama. Satisfação do Paciente. Obesidade Mórbida. Cirurgia Plástica.

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