

Aesthetic Plastic Surgery

Evaluation of Results

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ABSTRACT

Aesthetic plastic surgery has been greatly divulged in the last few years.

Patient's expectations as to procedure outcomes are frequently unreal, showing lack of correct divulging of its limits and possibilities.

This paper aims at discussing evaluation of results in aesthetic surgery, with the criteria for rhytidoplasty and mastoplasty as examples.

Plastic surgery is nowadays a very large field of activity that may be defined by the clinical and surgical procedure set used by the physician to repair and reconstruct parts of external coating of human body. So, it allows for the correction of a fortuitous psychological unbalance caused by the deformation. The final goal is always that of providing improved life quality for the patients.

The efficacy of the proposed treatment should be assessed according to medical-scientific principles based on evidences. The outcomes obtained with the employment of surgical techniques are submitted to known criteria. In cases of absence of an ear, for instance, the other, "normal" one, is the pattern that represents the form we intend to achieve, even though we rarely succeed to. When different possible surgical procedures

exist, their efficiency and success rate should be compared.

In plastic surgery, improvement is determined in relation to initial situation and not in relation to an eventual ideal beauty pattern. These concepts are clear if we consider plastic surgery, the said "repairing" surgery, related to congenital or acquired deformities, deviations of "normal" pattern in general — for instance, one child born with cleft palate or a patient with the body affected by extensive burning.

These criteria, however, are not easily applied to the part of plastic surgery generally called aesthetic surgery. The definition itself of aesthetic surgery is controversial and few papers exist in medical literature on the evaluation of its procedures based on evidences. Overexposure of the issue to non-professional media affects

even more the correct perception of this surgery's role in improving people quality of life.

For the purposes of this paper, we will use the definitions to repairing surgery and aesthetic surgery given by the American Society of Plastic and Reconstructive Surgeons to cover health insurance and approved by the American Medical Association in 1989⁽²⁾.

Repairing surgery is the one carried out in abnormal structures of the body caused by congenital defects, development anomalies, trauma, infection, tumor or disease. It is generally carried out to improve one function, but may also be performed to approximate to a normal appearance.

Aesthetic surgery is performed to give a new form to normal body structures aiming at improving appearance and self-esteem. Thus, aesthetic plastic surgery aims at improving people appearance whose problem has not been caused by disease or deformity. These are physiological changes such as aging, pregnancy or body external form deviations that do not characterize pathologies but cause psychological changes.

Surgical procedures may be grouped as those for face rejuvenescence (rhydolasty, blepharoplasty, among others); those to improve body contour (lipoaspiration, abdominoplasty, torsoplasty, etc.), surgeries to alter breast form (mastoplasty), and those designed to improve nose (rhynoplasty), ear (otoplasty) form, etc⁽⁵⁾.

As we have already mentioned, there are few reports in literature on a more precise and objective assessment of these interventions. Most of the time, the criteria are subjective, whether by the surgeon, or by the patients, and these are many times induced by false expectations divulged by non-professional media.

It seems of basic importance to have more accurate evaluation so as such interventions might be considered, in the same extent any others are, as being medical procedures. We believe they are beneficial to improve the patient quality of life but they should be studied under more scientific criteria based on evidences.

No doubt this is a very difficult task. In this article, we will present the summary of the research we have

been carrying out at Plastic Surgery Division of FMUSP Hospital das Clínicas, trying to introduce assessment at Aesthetic Plastic Surgery. We have used two main criteria since 1991: the "aesthetic" evaluation and patient satisfaction degree.

Human body aesthetics may not be measured by classic criteria of scientific evaluation since beauty concept is subject to variations and individual criteria; human body has no "normal" beauty and philosophic aesthetic is concerned with the ideal, artistic beauty, beyond average definition. This is difficult to be defined since it varies according uses, time, race and people.

Hegel considered beauty as "such a thing that is not defined but which is immediately perceived when seen". He said harmony was important. Aesthetic experts divide aesthetic judgment in three stages since early century: apprehension of object by the senses, comparison to previous experiences and, according to Kant and Schopenhauer thoughts, the realization of beauty sensation by the pleasure granted to the one who observes it.

Farkas, in an anthropological nature work, tried to define face physical measures as considered attractive in young people from California but, even though he has collected an impressive amount of data on face angles and lines, he has not succeed in featuring which of them would theoretically define an individual as attractive⁽⁴⁾.

It seems evident for us that the ideal concept of beauty should not be used to define surgical outcomes and the plastic surgeon skills. At science present stage there is no way to reach aesthetic perfection to the whole human beings.

Surgical procedures should try to improve aesthetic aspects of the body portion, or that face or breast presuming, of course, that there is an "aesthetic deficit". The evaluation of results will determine if there was improvement. In other words, one should try to establish if there was an aesthetic gain after completion of procedure, in which degree and which proportion compared to previous situation.

Comparison between different techniques is essential to determine which would be the most efficient one to that indication. The introduction of a new technique is only justified when it comes to replace another one, already carried out, with advantages. More

rationale followed-up for proper period of time is required for that comparison to be more conclusive.

The study of complication incidence and mainly of the factors that lead to the said “negative” aesthetic changes is very relevant for the discussion on the surgical results. There is no doubt that the most important general data refers to quantity and quality of the resulting scars, inevitable in any operation where incision is made at least at the subcutaneous cells, besides skin. Under the psychological point of view, it is even more important for the patients, as it reveals they undergone an aesthetic transformation — they cannot conceal they undergone surgery.

Works from the 70's⁽⁵⁾ and more recent ones tried to quantify scar aesthetic aspect, rating scar aspects such as color, form, volume and distinction from neighboring tissues. They propose criteria to separate scars by normal evolution, aesthetically less perceived, from those exuberant (hypertrophied) or even pathologic (keloids).

Percentage of complications found in populations operated by different techniques is important, should be collated to that found on average for that community and eventually compared to international data. These data — evidences — should, nowadays, be part of any publication that addresses surgical themes in which the scar aspect is important. Relevance of these concepts and their quantification under medical-legal context seems clear to us.

The criterion, perhaps essential today, for evaluating the aesthetic procedure outcomes, mainly in USA, is that of patient satisfaction.

Initially considered subjective, random and therefore, less scientific, it began to gain importance on outcome studies in which more objective behavior measures were added such as standardized questionnaires, that infer behavior characteristics, and known psychological tests, that remove preconceived ideas and properly reflect self-esteem gained after these operations.

Sarwer et al., in a recent work⁽⁹⁾, review investigative-psychological methods used in aesthetical surgery and propose criteria based on body image. This is defined as a multifaceted concept comprising thoughts and behavior with respect to body, influenced by perceptive and social-cultural factors in the development. Body image had already been defined as the set of perceptions, thoughts and feelings on body and body experiences.

They retake the theme that people seek for aesthetic surgery not only to change their external appearance (their body scheme) but also to transform psychological aspects related to body (or parts of it), their body image. Four elements of body image concept are important here: physical reality of appearance in general, it's perception by the patient, the importance he/she gives to this appearance and, maybe the most important one, his/her degree of non-satisfaction with it.

Investigation of surgical treatment outcomes should also be made based on the psychological gain after surgery. The issue is complex because the degree of existing unsatisfaction of population in general, or those who seek for aesthetic surgery, is not known. These are not the pathological changes with extreme degree of non-satisfaction with the body format — the dysmorphophobias (body dysmorphic disorders).

In the 90's we started studying the theme with the collaboration of Dr. Sandra Faragó Ribeiro, psychologist acting at Plastic Surgery Division. We used questionnaires and well-known psychological tests such as the “Human Figure Drawing”(HFD) and the “Crown-Crisp Experimental Index”(CCEI) that allow for measuring changes in personality traces compared to data before and after external form change provided by surgery. The most significant works were carried out with face aesthetic surgery and breast-reducing plastic surgery.

FACE REJUVENESCENCE

How to correctly evaluate treatment carried out for face aging? What do surgeons expect with these procedures once they know they cannot change aging but only attenuating its most visible aspects? The only certainty we have is that these procedures should not be considered “embellishing” as they would bring with them the wrong concept of “old is ugly”.

Clinical and surgical methods used in clinical practice for the so called “face rejuvenescence” are still, for many people, a controversial indication and their study has been compromised by the absence of investigations in university hospitals till recently as they are surgical procedures not authorized by SUS (Unified Health System).

What was known came mainly from subjective observations of private clinic patients without the indispensable scientific impartiality for the correct interpretation of outcomes as may times commercial is-

sues were involved with the need to get more clients.

If we observe what is going on the divulging of the so-called new methods to treat aging, mainly on non-professional media, this becomes clear as there is data manipulation and marketing involved.

In the last ten years we could carry out more accurate observations on different methods used for rejuvenescence, including surgical procedures, skin exfoliation, laser and others.

As surgeons, we were mainly concerned with measuring rhytidoplasty or face lifting outcomes considered as the main method for face rejuvenescence and for this we used the patient satisfaction index, tests for personality evaluation and incidence of complications.

Aesthetic assessment made by the surgeon, observers and patient, when pre and postoperative period photographs are compared, showed to be very subjective and non-consistent to produce evidences. The incidence of complications is low under trained hands and comparable to percentages mentioned in international literature.

The patient satisfaction rate and the psychological tests to evaluate personality were most fruitful.

There are, in general, three main reasons for the patient to want to undergo a plastic surgery:

1. to improve his/her professional confidence;
2. to gain more confidence in himself/herself and his/her personal life;
3. to alleviate discomfort of tired face that does not corresponds to internal youth feeling.

In pre and postoperative period (6 months) patients (all women) were asked to answer to questions in a semidrivem interview (questionnaire) and do tests of human figure drawing — they were asked to draw a human figure as they liked within a predetermined space, and to answer to another test, the Crown Crisp — a test with questions created by two Englishmen to determine personality dynamics and eventual changes caused by external agents, in this case, the operation.

The most significant outcomes were⁽⁸⁾:

- ◆ Patients, in general showed satisfaction with

the outcomes as the complication rate was low — apparent scars were reason for concern only in a few cases.

- ◆ No doubt plastic surgery “myth” directly influenced patients mind — mainly when performed by renown surgeons — in this case, the surgeons of Hospital das Clínicas de São Paulo.
- ◆ Gratitude and a certain admiration they felt for the physicians also influenced the way they evaluated results. This fact reinforces our knowledge that the physician-patient relationship is essential for this evaluation. The good relationship with the physician makes the patient sometimes consider as good even a poor aesthetic result, while relationship loss may create frustration and a revolting feeling in patients, causing litigation, even though the objective result might be the one expected by surgeons of that community.
- ◆ Operation improved quality of life since self-esteem and self-assurance were improved. It made these women feel able to attain their goals in life and have more development including, in some cases, professional gain. Still as to psychological aspects, lower rates of anxiety and depression were observed in postoperative period.

MASTOPLASTY

Mastoplasty is the breast plastic surgery. Two forms of aesthetic mastoplasty are considered: enlargement (generally with silicon prosthesis) and reduction. Reduction mastoplasty is one of the most frequent procedures carried out in plastic surgery in Brazil.

Patients seek for surgery to reduce breast size and so eliminating symptomatology (pain in the column or shoulder, intertrigo, and discomfort, among others) or just to improve aesthetic aspect or a combination of both. Evaluation of results may therefore have objective criteria — the elimination of symptoms — but should also have other ones — aesthetic and personal.

There is nowadays a more specific concern about this type of operation since we have to define, for the sake of health care coverage, if the procedure is aesthetic (not covered) or repairing (covered).

If we base ourselves on experiences in other countries, specially the United States and Germany, we would have to use quantitative criteria on the breast volume to separate the two groups. The commonest in those countries is to consider as “repairing” such procedure in which weight drawn from breast exceeds 500 g and as aesthetic when lower. Schnur proposed a more sophisticated method in which dried breast weight was compared to body surface ($BSA = k \cdot h \cdot m \cdot w$), where h is height, w is weight and k , m and n are the constants⁽¹⁰⁾.

Up to now, maybe because aesthetic surgery itself is not yet defined in Brazil, health care plans do not authorize any kind of reducing mastoplasty. SUS authorizes these operations in a few cases, according to less clear criteria — they are, in general, carried out in University Hospitals — and only for those great hypertrophies in which “symptomatology” seems to be more important for the patient than the “aesthetic” aspect. Under the point of view of symptomatology, reducing mastoplasty offers reliable results, and there are no more doubts in this respect.

The main issue are the aesthetic aspects as with the coming out of more creative techniques we get better aesthetic outcomes, though still far from aesthetic perfection idealized by patients and announced by media.

For the plastic surgeon, surgery is indicated whenever it may help patient, regardless legal quarrel but, for the purposes of studying the outcomes, we separated patients in groups whose breast tissue resection per side was lower than 500 g, those between 500 and 1000 g, and those above (gigantomastia).

We have studied outcomes in patients with mammary hypertrophy submitted to reducing mastoplasty and mastopexia using aesthetic criteria and patient satisfaction criteria since 1990.

The surgeon, the patient and independent observers carry out aesthetic assessment before (preoperative) and 1 month postoperative (recent), after 6 months (median), after 1 year and after 2 years (late). Score scale was designed for breast element aesthetic as can be seen in the table below:

Volume	Shape	Symmetry	Areola/nipple	Scar	Total
0-1-2	0-1-2	0-1-2	0-1-2	0-1-2	0 to 10

Score 0 for each item was always given to bad aesthetic aspect, 1, to regular and 2, to good. Comparison of postoperative aspect to preoperative was certainly important to scoring. Interesting is to note that score 2 for scar refers to its good quality and score 0 to pathological scar.

Therefore, if all criteria had score 0, the sum would be 0 and the aesthetic result would be disastrous and, on the other hand, with score 2 for all items meaning a good result, the sum would be 10 and, of course, the aesthetic result would be next to perfection, the aesthetic ideal for breast (to that observer).

Sums up to 5 meant unsatisfactory outcomes and those less than 4 indicated need for reoperation. Sums higher than 7 indicated good results in general.

Though subjective factor was involved, the criteria used were more easily knowledgeable and the number of observations permitted a better dispersion of any dissimilar opinions. Sum average given by 5 people (surgeon, patient, 3 independent observers) remained in most cases, between 5 and 7 in the first year, improving in the second year, probably by natural evolution with time in relation to scar appearance.

Assessments made by women revealed lower scores than those given by men, probably because women are more critical as to aesthetic, whether their own or others'. The averages given by surgeons were lower than those of patients, generally above 7, which reflects the surgeons' greater strictness as to aesthetic judgment and some unconscious degree of thankfulness from the patients to those who help them to improve their quality of life.

Aesthetic aspect of scars constituted the most important negative element in the evaluation. Fifty percent of the patients reported displeasure as to scars when the technique used resulted in an inverted T. More recent techniques with reduced scars or even incisions with vertical arm of T only, seem to be better approved by patients, provided they do not interfere with other breast aesthetic elements: form and volume.

Patient satisfaction was measured by driven questionnaire and by Human Figure Drawing and Crown-Crisp tests, presenting positive and significant results⁽⁷⁾.

In cases of large breast hypertrophy in which breast weight reduction and symptom elimination were the main factors for indication, the patients stated they

were satisfied even if aesthetic result was not satisfactory. This was the group in which resection surpassed 1000 g per breast, characterizing gigantomastia, patients for which we don't understand why there is no health care plan coverage.

The group with clearly aesthetic motivation was that in which resection was lower than 500 g and mammary ptosis ("fallen breasts") was the main complaint. In intermediate group (between 500 and 1000 g) the two indications coexist and may be or not covered by health care plans according to international criteria.

In our service, patient complaints at preoperative period were predominantly aesthetic in 40% of the cases. Psychological testes performed for these cases in pre and postoperative period indicated that the patients had no psychological disorders, that the surgery brought benefit as to quality of life and that they felt more secure in interpersonal relationship. There was a statistically significant reduction in depression trace presented by these patients when compared to previous estate to surgery, which indirectly confirms their self-esteem gain.

Therefore, aesthetic surgery presents difficulties to be evaluated based on evidences, but data available till now confirm its condition of a perfectly justified and important medical procedure for the patient well-being and health.

REFERENCES

1. BEAUSANG E, FLOYD H, DUNN KW, ORTON CI, FERGUSON MW. A new quantitative scale for clinical scar assessment. *Plast. Reconstr. Surg.* 1998; 102(6):1954-61.
2. COSMETIC and Reconstructive Procedures in Plastic Surgery. Arlington Heights. American Society of Plastic and Reconstructive Surgeons, 1989.
3. DANON S, JOST G, LAVAL R, et al. Essai d'évaluation objective du préjudice esthétique. Application a quelques cas de cicatrices de la face. *Ann. Chir. Plast.* 1972; 17:155.
4. FARKAS LG. *Anthropometry of head and face*. New York: Raven, 1994.
5. FERREIRA MC. *Beleza e Bisturi*. São Paulo : MG Editores, 1997.
6. MACHOVER K. Personality projection in drawing of the human figure. Springfield, Thomas, 1949.
7. RIBEIRO SFM, FERREIRA MC, TUMA JR P, BONAMICHI GT. Aspectos de personalidade e avaliações de pacientes para mastoplastia. *Rev. Hosp. Clin. FMUSP.* 1992; 47:290.
8. RIBEIRO SFM, FERREIRA MC, TUMA Jr. PJ. Avaliação psicológica pré-operatória de pacientes submetidos a ritidoplastia. *Rev. Hosp. Clin. FMUSP.* 1995; 50:17.
9. SARWER DB, PERTSCHUK MJ, WADDEN TA, WHITAKER LA. Psychological investigations in cosmetic surgery: a look back and a look ahead. *Plast. Reconstr. Surg.* 1998; 101:1136.
10. SCHNUR PL, HOEHN JG, ISTRUP DM, CAHOY MJ, CHU CP. Reduction mammoplasty: cosmetic or reconstructive procedure? *Ann. Plast. Surg.* 1991; 27:232.