

## **IMPACT OF THE SURGICAL TREATMENT OF GYNECOMASTIA ON THE QUALITY OF LIFE AND SELF-ESTEEM OF PATIENTS**

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## INTRODUCTION

Gynecomastia is the increase of the male breast in a transitory or permanent way, which may be due to excess glandular tissue or excess adipose tissue or both. It is the most common benign condition that affects male breasts, however, its incidence varies mainly according to age group<sup>1,2</sup>.

In the male population in general, the incidence is very variable, affecting 32 to 65% of adults. Autopsies revealed that the change in 5 to 9% of men<sup>1,3</sup>.

There are three cases of physiological gynecomastia: neonatal, pubertal and senile. In neonatal cases, the incidence is around 60%, regressing spontaneously in 2 to 3 weeks, in pubertal it affects around 65% of young people, with a peak at 14 years of age and remission around 17 years, in most cases. In the senile, it affects around 72% of the elderly between 50 and 69 years old<sup>1,2</sup>.

Gynecomastias that are not physiological are pathological and have two histological phases: proliferative and fibrotic. In the first, there is proliferation of ductal and stromal tissue and increased tissue vascularization, which may be reversible if the underlying pathology is treated. In the second, there is periductal fibrosis, which is irreversible<sup>1</sup>.

Half of pathological gynecomastias have an idiopathic cause, however, the most frequent known cause is the use of drugs, including cannabis, ethanol, amphetamines, ketoconazole, angiotensin-converting enzyme (ACE) inhibitors, beta-blockers, amiodarone, nitrates, diazepam, tricyclic antidepressants, haloperidol, drugs for anti-HIV therapy, omeprazole, heparin, among others. Klinefelter Syndrome, trauma and viral orchitis are other common causes<sup>1,4</sup>.

The most accepted classification of gynecomastia is Simon's, which classifies the pathology into 3 degrees. In grade I, there is a slight breast enlargement. In grade II there

is a moderate enlargement of the breast, with type IIA without excess skin and IIB with excess skin. Grade III there is sagging and excess skin, in addition to large breast enlargement<sup>5,6</sup>.

In cases of gynecomastia without spontaneous regression, which can be either physiological or pathological, surgical treatment is indicated. The most used surgical technique is subcutaneous mastectomy, in which glandular tissue is resected through a periareolar incision, which may be associated with transareolar extension, with or without associated liposuction. In cases where there is ptosis and excess skin, skin resection is performed.<sup>4</sup>

Male breast plastic surgery is one of the most performed plastic surgeries by men, especially in individuals between 20 and 30 years old and can be done in the Unified Health System (SUS) for free.<sup>7,8</sup>

In addition to a possible underlying pathology, another important aspect to be evaluated is the psychological impact on patients. This condition is often associated with anxiety, depression, self-image disorder, and social phobia, especially in teenagers. Thus, the interference of gynecomastia in the quality of life and self-esteem of patients is remarkable.

The aim of the study was to evaluate the impact of surgical treatment of gynecomastia on patients' quality of life and self-esteem.

## METHOD

### STUDY DESIGN

This is a prospective longitudinal cohort study carried out from March 2018 to February 2019.

### SAMPLE

Twenty male patients diagnosed with gynecomastia and with surgical indication from preoperative consultations in the area of

plastic surgery at the Hospital Universitário Ciências Médicas, in Belo Horizonte - MG, were selected. Only male patients diagnosed with gynecomastia, surgical indication as treatment and who wished to participate in the study by completing two questionnaires and signing an informed consent form were included in the study. Patients who were not interested in participating in the study or who did not complete all the questionnaires and the Free and Informed Consent Term were excluded from the study.

## **INSTRUMENTS**

Two questionnaires were used to measure patients' quality of life and self-esteem: the Brazilian Version of the Quality of Life Questionnaire-SF-36 (Short Form Health Survey with 36 items) and the Rosenberg self-esteem scale adapted to the Brazilian cultural context.

The first was chosen due to its validation in Portuguese, reproducibility, ease of understanding and quick completion, which facilitates participants' adherence to the research. It is a generic and multidimensional instrument for assessing quality of life, consisting of 36 items, divided into 8 domains: functional capacity, physical aspects, pain, general health status, vitality, social aspects, emotional aspects and mental health. There is a final score that ranges from 0 (zero) to 100, where zero would be the worst general health status and 100 the best health status.<sup>9</sup>

There are 5 levels for categorizing the scales according to the scores obtained: from 0 to 20 – very poor quality of life; from 20 to 40 – poor quality of life; from 40 to 60 – reasonable quality of life; from 60 to 80 – good quality of life; from 80 to 100 – excellent quality of life<sup>10</sup>.

The Rosenberg self-esteem scale was chosen because it is a self-esteem scale widely accepted in the international

scientific community, because it has high reproducibility and is easy to understand, being a relevant tool for evaluating the results of plastic surgery. The scale has 10 statements about personal appreciation and satisfaction, five of which are affirmative sentences scored from 0 (totally disagree) to 3 (totally agree) and another 5 are negative phrases that receive an inverse score from 3 (totally disagree) to 0 (totally agree) totally). A score of less than 15 indicates very low self-esteem. Between 15 and 25 points demonstrate a healthy self-esteem, the ideal. A score greater than 25 may indicate that the patient is a strong and solid person or very self-indulgent.<sup>11</sup>

## **PROCEDURES**

The study was approved by the Research Ethics Committee of the Faculty of Medical Sciences of Minas Gerais, under number 2,727,414. The ethical principles were respected and the work is in accordance with Resolution 466/12, of the National Health Council.

The selected patients were submitted to the completion of two questionnaires (Brazilian Version of the Quality of Life Questionnaire-SF-36 and Rosenberg's self-esteem scale adapted to the Brazilian cultural context), in two moments: a few days before surgery and a few months after surgery, which ranged from 3 to 5 months. The fillings were done in person or through the electronic questionnaire sent to the patients.

## **STATISTICAL ANALYSIS**

The calculation of the SF-36 scores was initially performed by calculating each of the domains (functional capacity, limitation due to physical aspects, pain, general health status, vitality, social aspects, limitations in emotional aspects and mental health) for each one. patients before and after surgery.

Rosenberg's self-esteem scale was initially calculated by adding the patient's values before and after surgery.

The repeated measures t-score, also known as the paired-samples or matched-pairs t-test, was calculated to compare the means of the normally distributed domains before and after surgery. The null hypothesis in this case is that there is no statistical difference in the two groups. Calculated the Z score for the self-esteem scale.

A significance level of 5% (0.050) was used for the application of the statistical tests, that is, when the calculated significance value (p) is less than 5% (0.050), a so-called 'statistically' difference is observed. signifier' (marked in red); and when the calculated significance value (p) is equal to or greater than 5% (0.050), a so-called 'statistically non-significant' difference is observed.

## RESULTS

When describing the perception of Quality of Life before and after surgery, according to table 1, there is an increase in the domains of functional capacity, pain, vitality, social aspects, limitations in emotional aspects and mental health and a decrease in the domains limitation due to physical aspects and general health status.

Before surgery, 5 domains were classified as good quality of life and 3 as excellent quality of life. After surgery, 4 domains were classified as good and 4 were classified as excellent.

Comparing all domains together, before and after surgery, a t-value of 0.736747 was obtained, with a p-value of 0.47344. This indicates that the result is not statistically significant. However, analyzing each domain separately, there was statistical significance in the fields of "functional capacity", "pain", "vitality", "limitations due to emotional aspects" and "mental health".

Regarding self-esteem, according to table 2, the self-esteem of the participants in the group remained between 15 and 25 points, which indicates healthy self-esteem. There was an increase in the average of self-esteem after the surgery, however, in relation to the statistical significance of the data, as the p-value was greater than 0.05, the result was not statistically significant.

## DISCUSSION

The results obtained by the SF-36 showed that the domain "limitations in emotional aspects" was the lowest and the highest score was in the domain of "functional capacity", both before and after surgery. The domains remained between good and excellent quality of life, showing that despite the patients being in a condition that weakened them emotionally and even functionally, overall, the quality of life was not greatly affected.

There was a decrease in the values in two domains: "limitation by physical aspects" and "general health status". Among the factors responsible for the fall in these aspects, we can say complications related to healing, limitations to perform physical activities after surgery, among others. However, there was no evidence of worsening in the domains of "pain" and "functional capacity".

By conventional criteria, the difference between the two groups (before and after surgery) regarding quality of life and self-esteem did not prove to be statistically significant, if we look at the concepts globally. However, analyzing the domains separately, a statistically significant difference can be seen in four domains of the SF-36: "functional capacity", "pain", "vitality", "limitations due to emotional aspects" and "mental health".

Davanço et. al.<sup>12</sup>, found a partially convergent result. Using the same quality of life questionnaire in patients with gynecomastia who underwent surgical treatment, the

	Before surgery				After surgery			
DOMAINS	Average	Standard deviation	Score Z	Value of p	Average	Standard deviation	Score Z	Value of p
Functional capacity	92,27	13,54	6.74077	0.0001	97,72	4,93	19.61866	0.0001
Limitation by physical aspects	75	22,5	0.11111	0.9115	61,36	28,92	2.08714	0.0369
Pain	80,81	22,36	3.56932	0.0004	87,36	16,51	5.23077	0.0001
General health status	75,09	8,77	8.44812	0.0001	74	13,88	0.01873	0.9851
Vitality	73,18	16,95	4.25841	0.0001	75,45	19,74	3.77153	0.0002
Social Aspects	71,59	86,12	0.81967	0.4124	82,95	102,02	0.80327	0.4218
Limitations by emotional aspects	60,59	23,77	2.50694	0.0122	66,64	23,05	2.84772	0.0044
Mental health	82,54	15,56	5.24036	0.0001	83,27	15,52	5.3009	0.0001

Table 1 - Mean and Standard Deviation of the Quality of Life domains.

Before surgery				After surgery			
Average	Standard deviation	Z	Value of p	Average	Standard deviation	Z	Value of p
21,8	3,89	0,509	0,618	23,6	4,84	0,446	0,655

Table 2 - Mean and Standard Deviation of the Self-Esteem Scale.

authors found improvement in the domains of “vitality”, “functional capacity”, “mental health”, “general health status” and “social aspects”. Of these 5 domains, a statistically significant increase was in the first three were also found in the present study.

questionnaire: “functional capacity”, “pain”, “vitality”, “limitations due to emotional aspects” and “mental health”. In the self-esteem questionnaire, improvement was evidenced, but it was not a statistically significant increase.

## CONCLUSION

In this study, patients undergoing surgical treatment to correct gynecomastia had improved quality of life and self-esteem assessed through questionnaires. A statistically significant difference was found in four domains of the SF-36, quality of life

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