

# REDUCTION MASTOPLASTY AND ITS HISTOPATHOLOGICAL FINDINGS AT SANTA CASA DE BELO HORIZONTE

## Mastoplastia redutora e seus achados histopatológicos na Santa Casa de Belo Horizonte

Douglas de Miranda Pires<sup>1</sup>, Alessandro Cesário da Silveira<sup>2\*</sup>,  
Guilherme Junqueira Souza<sup>3</sup>, Carolina Nazareth Valadares<sup>3</sup>, Izabel Aparecida Cunha Andrade<sup>3</sup>

### ABSTRACT

**Introduction:** Reduction mammoplasty surgery aims to obtain an aesthetic and postural balance in patients, and is among the most performed aesthetic surgeries in Brazil. **Objective:** This study analyzed 181 pathological results of patients aged between 17 and 57 years old, who underwent breast reduction at Santa Casa de Misericórdia de Belo Horizonte. **Methodology:** A retrospective study of anatomopathological exams of surgical specimens was carried out, and the acquired data were compared to data available in the literature. **Results:** The analysis showed that most patients from the study had benign pathological findings. Most of them had increased fibroadipose stroma (81.21%), while 9.9% had adenosis, 7.7% had fibrocystic changes, 3.3% had columnar cell changes, and 7.18% had breast metaplasia. **Conclusion:** There is a high prevalence of conditions that require breast reduction and, because of that, it was concluded that benign breast diseases are the main cause of visits to the breast specialist's office. Thus, it is important for breast surgeons to be familiar with them and be aware of differential diagnosis, rather than malignancy. The majority of benign diseases can be monitored clinically and with imaging exams. Pathological diagnosis is necessary when there is suspicion of malignancy in imaging methods and clinical examination.

**KEYWORDS:** Mammoplasty; pathology; hypertrophy; breast.

### RESUMO

**Introdução:** A mastoplastia redutora visa a obter o equilíbrio estético e postural nas pacientes e está entre as cirurgias estéticas mais realizadas no Brasil. **Objetivo:** Este trabalho analisou resultados de 181 exames histopatológicos de pacientes na faixa etária entre 17 e 57 anos submetidas à mastoplastia redutora na Santa Casa de Misericórdia de Belo Horizonte, pela equipe de mastologia. **Metodologia:** Foi realizado um estudo retrospectivo de exames anatomopatológicos de peças cirúrgicas e os dados adquiridos foram comparados aos dados disponíveis na literatura. **Resultados:** Praticamente todas as pacientes submetidas à mastoplastia redutora apresentaram achados considerados benignos. A maioria das pacientes apresentou estroma fibroadiposo aumentado (81,21%), enquanto 9,9% apresentaram adenose; 7,7% alterações fibrocísticas; 3,3% alterações de células colunares e 7,18% metaplasia mamária. **Conclusão:** Devido à grande prevalência das afecções que necessitam de mastoplastia redutora, concluiu-se que as doenças mamárias benignas correspondem à maior parte das queixas mamárias do dia a dia do mastologista. Dessa forma, é importante saber defini-las com precisão, ter conhecimento dos diagnósticos diferenciais e excluir a malignidade. A grande maioria dessas afecções pode ser acompanhada clínica e/ou imaginologicamente. O diagnóstico histopatológico é necessário quando a lesão for suspeita aos métodos de imagem ou ao exame clínico.

**PALAVRAS-CHAVE:** Mastoplastia; patologia; hipertrofia; mama.

<sup>1</sup>Postgraduate Program in Oncoplastic and Reconstructive Surgery, Santa Casa de Belo Horizonte – Belo Horizonte (MG), Brazil.

<sup>2</sup>Oncoplastic and Reconstructive Breast Surgery Course, Education and Research Institute, Santa Casa de Belo Horizonte – Belo Horizonte (MG); Specialist in mastology through SBM – Rio de Janeiro (RJ), Brazil.

<sup>3</sup>Santa Casa de Belo Horizonte (MG), Brazil.

\*Corresponding author: clinicadamama@yahoo.com.br

Conflicts of interest: nothing to declare.

Received on: 12/09/2016. Accepted on: 06/11/2017

## INTRODUCTION

Mammary hypertrophy is a body contour deformity characterized by the presence of bulky breasts that are disproportionate to the patient's biotype, and which may or may not be ptosed. This dysmorphism can cause mastalgia, back pain, postural defects, respiratory distress and the limitation of physical activities, which is a frequent complaint in breast specialists' or plastic surgeon's offices. The treatment for this disease is surgical. According to the weight of the breast tissue being removed through surgery, it can be classified as mild (up to 500 g), moderate (501 to 800 g), severe (801 to 1,000 g) and gigantomastia (greater than 1,000 g). In most cases, it can be observed that the greater the degree of breast hypertrophy, the greater the discomfort for the patient, and the greater the difficulty of self-examination for the detection of illnesses<sup>1</sup>.

Reduction mammoplasty, a surgery whose goal is to obtain aesthetic and postural balance for patients with macromastia, congenital mammary asymmetry or symmetrization after contralateral mastectomies, is among the most performed aesthetic surgeries in Brazil<sup>2-5</sup>.

The increase in the incidence of breast cancer has been accompanied by an increase in mortality, which can be attributed mainly to a delay in diagnosis and lack of appropriate treatment. In Brazil, 70% of the diagnosed cases are in more advanced stages (III and IV), when the patients' survival and cure rates are substantially lower. In this context, the preoperative evaluation of patients who are candidates for corrective mastoplasty may be an important opportunity to identify clinical/imaging findings that may guide an investigation of neoplastic problems. This includes the possibility of having previously planned oncological treatment and not necessarily having to give up the corrective purpose of breast hypertrophy. The concept of oncoplastic surgeries encompasses this option responsibly. In addition, candidates for this procedure should also be submitted to a histopathological evaluation of the tissue specimens in the postoperative period in order to identify possible changes, be they benign or malignant, since 60% of patients without changes in the preoperative period presented benign changes in surgical pieces of mammoplasties<sup>4</sup>. The finding of incidental mammary carcinoma corresponds to only 0.05 to 1.66% of the patients submitted to reductive mammoplasty<sup>6</sup>.

Several studies have observed a higher incidence of histological alterations in surgical specimens from this type of intervention and discuss the real importance of these exams<sup>4,5,7,8</sup>.

Among these alterations, malignant pathologies can also be diagnosed<sup>3</sup>, justifying a detailed approach in the pre-operative clinical and radiological evaluation.

This study aimed to analyze the results of histopathological examinations of patients submitted to reduction mammoplasty at Santa Casa de Misericórdia de Belo Horizonte, comparing them to those available in the literature.

## METHODOLOGY

A retrospective study of anatomopathological examinations of surgical pieces from reduction mammoplasty performed at the above hospital was carried out in the period from June 2012 to February 2016. The sample consisted of 181 patients, aged between 17 and 57 years old. All of them underwent the clinical investigation process as directed by the Brazilian Mastology Society with physical and imaging examination according to their age group to detect breast cancer and suspected lesions.

The patient's age, the weight of the resection area of the two breasts together, and the histopathological results of each patient were considered.

Statistical analysis was performed with software SPS S for Windows ver. 16.0 (PASW SPSS Software ver. 18) (SPSS, Inc., Chicago, IL).

## RESULTS

The data were obtained by means of 181 reports of anatomopathological exams, filed in the mentioned institution, and distributed as follows:

- 30 for the year 2012;
- 52 for the year 2013;
- 55 for the year 2014;
- 43 for the year 2015; and
- 1 for the year 2016.

The study population consisted of 181 women aged between 17 and 57 years old (mean: 33.14 years old).

The weight of the pieces ranged from 18 to 2,620 g (mean: 808.22 g).

In the present study, the majority of patients submitted to reduction mammoplasty had increased fibrous stroma (81.21%), while 9.9% had adenosis, 7.7% had fibrocystic alterations, 3.3% had alterations of columnar cells, and 7.18% had mammary metaplasia.

## DISCUSSION

The evaluation of proliferative lesions in the pieces studied can individualize patients and define strategies for follow-up or preventive measures, such as the use of antiestrogens and risk-reducing mastectomy, or a more careful clinical follow-up<sup>4</sup>. Some patients may present important microscopic lesions, even if radiological examinations show no alterations<sup>9</sup>, thus showing the importance of sending all the surgical pieces for histopathological study.

In the study by Barros<sup>5</sup>, the majority of patients submitted to reductive mammoplasty had no alterations upon the anatomopathological study, and the fibrocystic alterations were the only statistically significant finding among the groups, with 76.2% of the cases. Women over 35 years of age had greater alterations than those that were younger. In the present study, the

fibrocystic alterations comprised only 7.7% of the cases, and the majority showed increased fibrotrophic stroma (81.21%). In the study by Bittencourt et al.<sup>3</sup>, 26 patients had fibrocystic alterations, 11 patients had stromal fibrosis, 21 patients had lipomastia and stromal fibrosis, and the other patients had similar alterations. The study by Tafuri and Gobbi<sup>2</sup> also detected a greater number of fibrocystic alterations. Cysts and ductal ectasia were present in 50.9% of bilateral aesthetic reduction mammoplasties and in 59.7% of contralateral mammoplasties.

Other works have indicated the insignificant presence of ductal carcinoma *in situ*<sup>3,5,7</sup> and lobular carcinoma *in situ*<sup>4</sup>. In 1998, Jansen et al. published a survey on hidden breast cancer in 0.16% of 2,576 mammoplasties<sup>10</sup>. Desouki et al., in 2013, reported two (0.08%) cases of invasive carcinomas in surgical pieces of 2,498 breast reductions<sup>11</sup>. In 2012, Hassan et al. reported nine cases (0.65 %) of carcinoma out of a series of 1,388 mammoplasties.<sup>12</sup>

All of these malignant findings were incidental in patients with imaging tests that presented no suspected abnormalities. These studies reflect a low rate of detection of occult cancer in reduction mammoplasty specimens in years, which is explained by the progress in population education, the younger group of patients performing breast surgery and more complete preoperative screening.<sup>6</sup>

There were no references in the literature that related the degree of breast hypertrophy to the sensitivity and specificity tests of the imaging exams.

It was stated that in patients older than 40 years old or submitted to mammary reduction for symmetrization after mastectomy, the histological examination of the surgical specimens is scientifically reinforced<sup>4</sup>. For Souza et al.<sup>8</sup>; Barros<sup>5</sup> and

Sugita<sup>7</sup>, the group aged above 35 years old seems to benefit from this practice due to the care instituted in the monitoring and/or treatment of patients, as a result of the diagnoses performed with such a routine.

In the present study, the most common finding was increased fibroadipose stroma. Despite the peculiarities in the description of the reports of alterations in the studied specimens, we observed a coincidence with the literature on the histopathological diagnoses, especially when it comes to benign findings. In this study, there were no cases of malignancy, atypia, or precursor lesions for comparison.

One of the limitations of this study is that there was no standardization of histopathological reports, which may have led to differences in the proportions of the diagnoses. However, there was no doubt as to the differentiation between benignity and malignancy.

## CONCLUSION

All the patients in our study presented alterations in the anatomopathological examination, the benign non-proliferative changes of the breast were the main findings. The occurrence of occasional carcinoma in reduction mammoplasty, despite the low incidence, can occur, even when preoperative examination results are considered normal.

In this study, the majority of patients presented increased fibrotrophic stroma and there was no case of malignancy, different from the reviewed literature. However, due to the high prevalence and increasing incidence of breast cancer, a complete evaluation of women candidates for the reduction mammoplasty procedure is mandatory.

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