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# EPIDEMIOLOGICAL PROFILE OF THE MASTOLOGY CLINIC IN A UNIVERSITY HOSPITAL IN THE NORTHWEST OF PARANÁ

## Perfil epidemiológico do ambulatório de mastologia em um hospital universitário no noroeste do Paraná

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## ABSTRACT

**Introduction:** With increased awareness about breast cancer, discovering a breast lump can cause emotional stress in patients. Thus, diagnostic methods are used to distinguish and confirm benign and malignant breast pathologies. **Objective:** To characterize the epidemiological profile of the Mastology Clinic of the University Hospital of Maringá, in a period of one year, defining the incidence of benign and malignant breast diseases in patients undergoing breast cancer screenings in the local public health network. **Methods:** A cross-sectional, retrospective and descriptive study, with data collection from patients seen at the Mastology Clinic from March 2015 to February 2016. **Results:** Of the 103 patients, 99% were female, 82.3% were between 40 and 69 years old, and 80.5% were white. Regarding the patient's main complaint, 55% had only one altered imaging exam, 7% had only clinical complaints, and 32% had a palpable nodule in addition to an altered imaging exam. The main findings in the imaging exams were nodules, present in 67.1% of mammograms and 80% of mammographic ultrasonography, with inconclusive or suspected classification in 77.9% of mammograms and 65.7% of ultrasonography. Biopsies were performed in 71.8% of the patients. Benign pathologies corresponded to 76.1% of the diagnoses and 25 cases of breast cancer were identified. **Conclusion:** The epidemiological profile of the Clinic presented similar characteristics to the literature during the period studied. Referrals to specialists were justified because the changes in the imaging exams warranted further investigation. Diagnostic procedures fulfilled their role, differentiating and confirming benign and malignant breast diseases.

KEYWORDS: Epidemiology; breast diseases; mammography; ultrasonography, mammary; mass screening; diagnosis.

## RESUMO

**Introdução:** Com o aumento da conscientização sobre o câncer de mama, descobrir um nódulo mamário pode causar estresse emocional nos pacientes. Dessa forma, métodos diagnósticos são empregados para distinguir e confirmar patologias mamárias benignas e malignas. **Objetivo:** Caracterizar o perfil epidemiológico do Ambulatório de Mastologia do Hospital Universitário de Maringá, no período de um ano, definindo a incidência de patologias mamárias benignas e malignas em pacientes submetidos a rastreamento de câncer de mama na rede pública regional. **Método:** Estudo transversal, retrospectivo e descritivo, com a coleta de dados de pacientes atendidos no ambulatório de mastologia de março de 2015 a fevereiro de 2016. **Resultados:** Dos 103 pacientes, 99% eram mulheres, 82,3% entre 40 e 69 anos e 80,5% da cor branca. Em relação à queixa principal, 55% apresentaram exclusivamente um exame de imagem alterado, 7% apenas queixa clínica e 32% possuíam nódulo palpável além do exame de imagem com alterações. O principal achado nesses exames foram nódulos, presentes em 67,1% das mamografias e 80% das ultrassonografias mamárias, com classificação inconclusiva ou suspeita em 77,9% nas primeiras avaliações e 65,7% nas últimas. Biópsias foram realizadas em 71,8% dos pacientes. Patologias benignas corresponderam a 76,1% dos diagnósticos e 25 casos de câncer de mama foram identificados. **Conclusão:** O perfil epidemiológico encontrado no ambulatório analisado apresentou características semelhantes à literatura, no período estudado. Encaminhamentos para a especialidade apresentaram justificativa para tal pelas alterações nos exames de imagem que mereciam maior investigação. Procedimentos diagnósticos cumpriram seu papel, diferenciando e confirmando doenças mamárias benignas e malignas.

PALAVRAS-CHAVE: Epidemiologia; doenças mamárias; mamografia; ultrassonografia mamária; rastreamento; diagnóstico.

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## INTRODUCTION

Mastology is the medical specialty that studies breast diseases and has numerous connections with other areas (gynecology, pathology, genetics, radiology, oncology, surgery). Thus, modern mastologists need to blend several specific areas of knowledge in order to fully conduct their practice[1].

Discovering a palpable breast nodule or a nodule in a mammographic screening is an emotional factor that impacts most patients, in part due to people's increased access to information and breast cancer (CA) awareness campaigns[2]. In Brazil, in 2016, the National Cancer Institute (*Instituto Nacional do Câncer* – INCA) estimated 57,960 new cases of breast CA, with an estimated risk of 56.20 cases per 100 thousand women. Breast CA is the most frequent cancer among women in the south (74.30/100 thousand), southeast, mid-west and northeast regions, not considering non-melanoma skin tumors[3]. However, it should be noted that up to 80% of palpable breast tumors are benign and do not significantly increase the risk for developing breast CA[4]. Thus, benign breast diseases make up the vast majority of mammary complaints at routine gynecological visits. Gynecologists should not only refer patients to a mastologist, but also reassure them and treat their symptoms.

Although most breast diseases are benign, breast CA is distinguished by its high mortality rates and its locoregional and systemic therapy repercussions[1], due to surgeries such as mastectomies and chemotherapeutic and/or radiotherapeutic treatments. When current diagnosis methods, such as mammography (MMG), mammary ultrasonography (USG), needle cytology and biopsy, present suspicious and/or confirmatory results for breast CA, especially in patients with risk factors for the diseases (advanced age and family history, for example)[3], the survival rate for this disease is directly proportional to the tumor stage at the time of diagnosis[5]. This moment has a direct influence on the progression and prognosis of the disease, as the precocity of the diagnosis is directly proportional to the chances of cure[6].

Thus, in 2015, guidelines for the early detection of breast CA were developed by a work force coordinated by the INCA, which determined the necessity for a biennial mammography for women aged between 50 and 69 years old as recommended by the Brazilian Ministry of Health (MoH) for breast CA screening.[7] These recommendations are different from those from the Brazilian College of Radiology (*Colégio Brasileiro de Radiologia* – CBR), the Brazilian Mastology Society (*Sociedade Brasileira de Mastologia* – SBM) and the Brazilian Gynecology and Obstetrics Federation (*Federação Brasileira de Ginecologia e Obstetrícia* – FEBRASGO), which recommend an annual mammogram for all women between 40 and 69 years of age, for screening purposes[8].

The BI-RADS (Breast Imaging-Reporting and Data System) was used in order to classify mammary lesions identified in MMGs. In 1992, the American College of Radiology developed a system to standardize mammography reports. This system has been used in Brazil since 1998, according to the guidelines from CBR and FEBRASGO[9]. In order to monitor the quality of diagnostic imaging services performed by MMG, Ordinance No. 530, of the Ministry of Health, published in the Official Gazette of the Union (*Diário Oficial da União*) on March 27th, 2012, establishes the National Quality Mammography Program (*Programa Nacional de Qualidade em Mamografia* – PNQM)[10]. It is known that a poor-quality mammography may leave the patient mistakenly at ease and with a false sense of protection or, on the contrary, suggest an untrue breast lesion diagnosis that is under high suspicion for malignancy.

Hence there is an extreme importance to distinguish, accurately, benign breast diseases from malignant ones, through minimally invasive procedures and/or adequately reported mammograms, with the aid of both clinical epidemiological patients profiles. This can prevent iatrogenies, such as unnecessary surgical procedures or delayed breast CA diagnosis and its treatment.

The Mastology Outpatient Clinic of the *Hospital Universitário Regional de Maringá* (HUM) was recently set with the objective of evaluating cases of suspicious screening tests for breast CA in the public health system of the region. Patients are referred to this service so that the breast CA diagnosis may be investigated early on, and confirmed or discarded in an attempt to find solutions in the shortest time possible.

The general objective of this study was to characterize the epidemiological profile of the Mastology Outpatient Clinic of the HUM, from March 2015 to February 2016, specifically addressing the incidence of benign and malignant mammary pathologies and observing the BI-RADS classification of radiological findings in breast lesions.

## METHODS

In order to meet the objectives proposed, a cross-sectional, retrospective and descriptive study was carried out. Data were collected based on the information found in medical chart records of patients seen at the Mastology Outpatient Clinic of the HUM, from March 2015 to February 2016.

The information obtained and subsequently analyzed included: gender, age, color/race, educational level, reason for referral to the outpatient clinic/main complaint, radiological tests (MMG and/or mammary USG) and respective BI-RADS classification, diagnostic procedure with fine needle aspiration (FNA), needle biopsy, core-biopsy (core-bx) or lesion/tumor excision, anatomopathological report/diagnosis/mammary pathology, family history of breast CA, and course of action.

The patients included in this study were found using the Hospital and Outpatient Management System (*Sistema de Gestão Hospitalar e Ambulatorial* – GSUS), and confirmed in the area of outpatient specialties clinics (mastology, in this case). The figures in the medical charts were recorded and, from them, a search in the Patient Record Service (*Serviço de Prontuário de Paciente* – SPP) of the HUM was performed.

The data were collected and stored in a table specifically made for the study, for further descriptive statistical analysis. Data such as the name of the patient, date of birth, parents, residence address, contact telephone numbers, National Health Card number, or any other information which would allow for the identification of patients were not included. Thus, an informed consent waiver was requested.

The purposes of this research were protocolized in the Commission for the Regulation of Academic Activities (*Comissão de Regulamentação de Atividades Acadêmicas* – COREA) of the HUM, submitted for consideration, and upon obtaining a favorable opinion under No. 103/2016, and in the Standing Committee on Ethics in Human Research (*Comitê Permanente de Ética em Pesquisa com Seres Humanos* – COPEP) of the *Universidade Estadual de Maringá* (UEM), were submitted for consideration under No. 1.788.120, and upon obtaining favorable opinion, were filed as CAAE 60403716.8.0000.0104.

## RESULTS

After research in the GSUS system, 248 medical appointments were identified for the mastology outpatient clinic, from March 1st, 2015 to February 29th, 2016. Of those, 169 had their presence confirmed, 57 were missing, 11 were transferred and 11 were cancelled. Of the 169 confirmed appointments, 65 were from patients who had already been seen more than once within the period (meaning 65 outpatient return visits). Thus, the initial sample consisted of 104 patients who underwent mastology appointments in the mentioned period. Of the 104 medical charts in SPP, 1 was not found, therefore, the total number of reviewed charts was 103 patients.

The final sample consisted of 102 female patients and 1 single male patient. Age ranged from 12 to 74 years old, with a mean of 48 years of age, and 82.3% of the subjects were aged between 40 and 69 years old. Of the 103 patients, 80.5% were white/caucasian, 14.5% were light-skinned black people and 4.8% were dark-skinned black people. As for education, most of them (56.3%) had elementary school degrees (it was not specified whether the degrees were complete or incomplete), 6.7% were not literate, 29.1% had a high school degree and 7.7% had completed higher education. These data are displayed in Table 1.

Regarding the main complaint, 55% had only an altered imaging test as the reason for referral to the clinic, while 7% were referred there due to clinical complaints only (4% palpable nodule, 2% papillary discharge and 1% gynecomastia), without previous imaging tests. On the contrary, 32% of patients had a palpable nodule as a clinical complaint in addition to an altered imaging test. The remaining 6% included postoperative patients who had drainage of breast abscesses performed on them and were referred from the infirmary ward/emergency room for a follow-up.

With regard to the family history for breast CA, 74.7% of the subjects did not have any relatives with this diagnosis, while 16.5% had a positive family history for the condition (mother, sister, maternal aunt, maternal grandmother or unspecified degree of kinship); 8.7% were ignored because they didn't have this information on their charts.

Patients were already instructed to present, at their first visit, an imaging exam with alterations and their respective medical reports. Thus, 73 MMG and 70 mammary USG, performed in other places, were analyzed. The main variation in the imaging exams was mammary nodules, present in 67.1% of MMGs and 80% of USGs. Other findings may be observed in Table 2. As for

**Table 1.** The epidemiological profile of the patients regarding gender, age, race and education.

| Characteristic | N | % | Characteristic | N | % |
|---|---|---|---|---|---|
| Gender | | | Race | | |
| Female | 102 | 99.0 | White/Caucasian | 83 | 80.5 |
| Male | 1 | 0.9 | Light-skinned Black | 15 | 14.5 |
| Age (years) | | | Dark-skinned Black | 5 | 4,8 |
| <30 | 6 | 5.8 | Education | | |
| 30 to 39 | 10 | 9.7 | Illiterate | 7 | 6.7 |
| 40 to 49 | 38 | 36.8 | Elementary school | 58 | 56.3 |
| 50 to 59 | 32 | 31.0 | High School | 30 | 29.1 |
| 60 to 69 | 15 | 14.5 | College | 8 | 7.7 |
| ≥70 | 2 | 1.9 | | | |

**Table 2.** Characteristics of the imaging exams evaluated in the first consultations with regard to the alterations found and the BI-RADS classification.

| Mammography | N | % | Ultrasonography | N | % |
|---|---|---|---|---|---|
| Alterations | | | Alterations | | |
| Absent | 5 | 6.8 | Absent | 4 | 5.7 |
| Nodules | 49 | 67.1 | Nodules | 56 | 80.0 |
| Benign calcifications | 5 | 6.8 | Cysts | 11 | 15.7 |
| Suspicious classifications | 8 | 10.9 | Heterogeneous area | 1 | 1.4 |
| Asymmetric density | 6 | 8.2 | Ductal dilation | 1 | 1.4 |
| Dense parenchyma | 4 | 5.4 | Signs of abscess | 1 | 1.4 |
| BI-RADS | | | BI-RADS | | |
| 0 | 32 | 43.8 | 0 | 0 | 0 |
| 1 | 5 | 6.8 | 1 | 4 | 5.7 |
| 2 | 6 | 8.2 | 2 | 7 | 10.0 |
| 3 | 5 | 6.8 | 3 | 13 | 18.5 |
| 4 | 20 | 27.3 | 4 | 42 | 60.0 |
| 5 | 5 | 6.8 | 5 | 4 | 5.7 |
| 6 | 0 | 0 | 6 | 0 | 0 |

the BI-RADS classification of these tests, 43.8% of MMGs were BI-RADS 0, 27.3% were BI-RADS 4 and 6.8% were BI-RADS 5. Regarding USGs, 60% were BI-RADS 4 and 5.7% were BI-RADS 5.

According to need and an adequate referral, new imaging exams were requested, and diagnostic procedures were performed. Thus, digital MMGs were performed in 24.2% of the patients, only a mammary USG was performed in 8.7%, a FNA (possibly USG-guided) in 33%, a core-bx (USG-guided or not, stereotaxic or not) in 38.8%, a nodulectomy/sectorectomy in 19.4% and there was a single case of prolactin dosage and nuclear magnetic resonance imaging (MRI) of the pituitary.

The main diagnosis found may be observed in Table 3. The diagnosis of "normal breast" was given to patients with MMG alterations (nodule or asymmetric density), which were not confirmed later in the mammary USG performed.

The final procedures (after the first consultation, diagnostic procedure and diagnostic conclusion) were outpatient discharge with a follow up in Basic Health Units (*Unidade Básica de Saúde* - UBS) (59.2%), a referral to a reference service (High-Complexity Oncology Centers — *Centros de Alta Complexidade em Oncologia* – CACON) for oncologic treatment (25.2%), and a follow-up in the service itself (15.5%). Of the 25 patients with a breast CA diagnosis, 15 (60%) underwent the first visit, diagnostic procedures, a diagnostic conclusion with anatomopathological report, and a referral to a reference service in a period of 1 week. A total of 5 (20%) patients took 2 weeks to do so, and another 2 patients took 4 weeks. In another three cases, a longer time was taken—50, 105 and 112 days. The mean time that the patient with breast CA remained in our service was 19.9 days, with a minimum of 7, a maximum of 112 and a median of 7 days.

**Table 3.** Diagnoses of patients from the Mastology Outpatient Clinic of the HUM, from March 2015 to February 2016.

| Diagnosis | N | % |
|---|---|---|
| Normal breast | 4 | 3.6 |
| Benign functional alterations of the breast | 35 | 31.8 |
| Benign nodule | 21 | 60.0 |
| Mammary cyst | 9 | 25.7 |
| Ductal ectasia | 1 | 2.8 |
| Not specified | 4 | 11.4 |
| Mastitis | 7 | 6.3 |
| Steatonecrosis | 2 | 1.8 |
| Eczema | 1 | 0.9 |
| Galactorrhea | 1 | 0.9 |
| Benign neoplasia | 19 | 17.2 |
| Fibroadenoma | 11 | 57.8 |
| Benign phyllodes tumor | 3 | 15.7 |
| Benign ductal papilloma | 2 | 10.5 |
| Simple adenosis | 1 | 5.2 |
| Angiolipoma | 1 | 5.2 |
| Gynecomastia | 1 | 5.2 |
| Benign microcalcifications | 15 | 13.6 |
| Atypical ductal hyperplasia | 1 | 0.9 |
| Breast CA | 25 | 22.7 |
| Ductal | 22 | 88 |
| Mixed | 1 | 4 |
| Not specified | 2 | 8 |

## DISCUSSION

Almost all of the patients were female (102 patients), except for a single male patient, aged 27 years old, with a complaint of gynecomastia and a positive family history of breast CA.

The age range was broad, covering youngsters, adults and elderly people, with 82.3% of the sample aged between 40 and 69 years old. The prevalence in this age range corroborates the fact of having greater attention to breast CA in the screening group, according to the recommendations, of 50 to 69 years of age from the MoH and 40 to 69 years of age from the SBM, FEBRASGO and CBR. Patients performing screening in primary health care, whether annually or biennially, who had alterations in their imaging exams and/or would require in-depth investigation, were referred to our outpatient clinic for such. Regarding race, the results found (80.5% White/Caucasian, 14.5% Light-skinned Black and 4.8% Dark-skinned Black) were compatible with the prevalence of those according to the 2010 Census of Maringá, published by the Brazilian Institute of Geography and Statistics (*Instituto Brasileiro de Geografia e Estatística* – IBGE) in 2011 (70.8% White/Caucasian, 21.9% Light-skinned Black and 0.03% Dark-skinned Black)[11], with some differences, considering that the population served in our outpatient clinic is not restricted to this municipality.

Since it is a specialized mastology outpatient clinic, the vast majority of patients (87.3%) referred to it already presented an imaging exam (MMG or mammary USG) at their first consultation. Palpable nodules was the main complaint, along with imaging exams, comprised 35.8% of the sample, and another 55.3% had only their altered imaging test as a main complaint, and denied any clinical symptoms in anamnesis. This probably reflects the attention given to breast CA screening, since 87.7% of patients with only an imaging exam as their main complaint were aged between 40 and 69 years old.

Family history of breast CA is an important risk factor for the onset of the disease, considering that gene alterations, such as the ones from the Breast Cancer Susceptibility Gene family (BRCA), increase the risk of developing it. It should be noted, however, that about nine of every ten breast CA cases occur among women with no family history[3]. Although this was not the study's objective, due to unreliable and/or ignored data (such as positive family

history for first and/or second degree relatives, age at which the family member was diagnosed with breast CA, verified mutation in the BRCA1 or BRCA2 genes, and diagnosis of ovarian CA), it was not possible to perform an adequate analysis of hereditary risk of breast CA. In any case, it may be stated that, from the groups with negative (77 patients), positive (17) and ignored (9) family history, 18 (23.3%), 3 (17.6%) and 4 patients, respectively, were diagnosed with this disease.

In total, 73 MMGs and 70 mammary USGs were evaluated during first visits, whose main findings were nodules in 67.1 and 80% of them, respectively. There were also alterations identified as microcalcifications and/or MMG asymmetric densities and cysts and/or heterogeneous areas in the USGs. The majority of patients had a BI-RADS classification of 0, 4 or 5, i.e., tests presenting inconclusive, suspicious or highly suspicious findings for malignancy, respectively. These deserved further investigations, comprised by 77.9% of MMGs and 65.7% of mammary USGs. Approximately 25% of the sample needed to perform a new MMG in the service.

As for the MMGs performed in other services, it is worth noting that 43.8% of them had BI-RADS 0, an inconclusive result requiring another exam to be done (either a USG or a new MMG with an enhancement or compression of the inconclusive image). Poor quality of the exam, an inadequate report, or an inappropriate exam request (for instance, a MMG for young women with dense breast parenchyma, which makes a good evaluation rather impossible) are possible reasons for these results. It should be noted that, of the 32 patients with BI-RADS 0, only 4 of them were aged less than 40 years old.

Although it was only expected to have referrals of imaging exams with BI-RADS 0, 4 or 5 to the mastology outpatient clinic, 15 patients had BI-RADS 1, 2 or 3 in their MMGs and USGs (negative, benign or probably benign findings, respectively) and, even then, they were referred to a specialist for a more satisfactory evaluation. After reevaluation and new tests, when necessary, all 15 cases were diagnosed as benign.

Regarding diagnostic procedures, 71.8% of the patients were submitted to minimally invasive procedures: FNA (33%) and core-bx (38.8%). Of the 34 FNA, 21 were suggestive of fibroadenoma, of which 13 opted for an expectant treatment, 7 underwent nodulectomy (all confirmed benign pathology) and 1 chose to continue the core-bx investigation, resulting in a breast CA diagnosis. As for the remaining 13 FNA, 5 were confirmed to have mammary cysts, 4 were compatible with mastitis and steatonecrosis, and the other 4 were referred to nodulectomy/sectorectomy (confirming 2 fibroadenomas, 1 angiolipoma and 1 benign Phyllodes tumor). Forty patients were submitted to a core-bx procedure. Twenty-four of them (60%) were diagnosed with breast CA with a biopsy, 1 had an inconclusive result (confirmed CA diagnosis after nodulectomy) and 1 was diagnosed with an atypical ductal hyperplasia (risk precursor lesion). The other 14 core-bx were diagnosed as benign.

Twenty patients underwent nodulectomy and/or sectorectomy surgeries. Fifteen of those performed FNA or core-bx previously, which was not necessary in the other 5 (3 cases of nodulectomy with post-surgical confirmation of fibroadenoma and 2 cases of sectorectomy with a previous diagnosis of chronic mastitis). Of the 15 who underwent minimally invasive procedures, only 1 core-bx presented an inconclusive anatomopathological result and was confirmed by a post-nodulectomy for mixed invasive CA. The other 14 patients were diagnosed with benign pathologies (8 fibroadenomas, 2 benign Phyllodes tumors, 2 benign ductal papillomas, 1 angiolipoma and 1 simple adenosis). A third case of a benign Phyllodes tumor, confirmed in core-bx, was referred for treatment at another service.

There was only one case of galactorrhea, in which other tests such as prolactin dosage and a pituitary MRI were requested. Galactorrhea from a pharmacological cause was the diagnostic conclusion.

Of the 110 diagnoses (considering some patients had more than one pathology, such as nodules and mammary cysts, for example), 76.1% of them corresponded to benign pathologies. Only one case of atypical ductal hyperplasia and 25 cases of breast CA were diagnosed, of which 88% were ductal, corroborating the literature found[12]. Patients with breast CA were aged between 34 and 70 years old. However, 92% of them were aged between 40 and 70 years old. The mean age observed was 54 years old, similar to patients from other Brazilian states and other countries[13]. 72% were White/Caucasian, 24% Light-skinned Black and 4% Dark-skinned Black. Only 3 of the 25 subjects had a positive family history.

Breast CA is a multifactorial type of cancer, involving biological-endocrine factors, reproductive life, behavior and lifestyle. Aging, factors related to the reproductive life of women (nulliparity, having the first child after 30 years of age), family history of breast CA, and high-density mammary tissue (the ratio between the mammary glandular tissue and the adipose one) are the best-known risk factors for the development of this condition. Furthermore, alcohol consumption, excess weight, sedentarism and exposure to ionizing radiation are also considered potential agents[3]. Since the objective of this study was not to outline the profile of the patients diagnosed with breast CA, certain risk factors were ignored in the research because much of the aforementioned data was not found in medical charts. Likewise, due to the lack of information in medical records, no data were collected regarding the stage of the breast CA at the time of its diagnosis.

Thus, the final procedures performed were outpatient's discharge with a follow-up in UBSs (59.2%), a referral to a reference service for oncologic treatment (25.2%) and continuity in the service itself (15.5%). This presented an outpatient resolution rate of 84.4%.

It is important to highlight the time patients with breast CA spent in our service, from the moment of their first consultation

to their referral to a reference center (CACON). Of the 25 patients diagnosed with breast CA:

- 15 (60%) underwent their first consultation, diagnostic procedure, diagnostic conclusion with anatomopathological report and referral to the reference service within 1 week;
- 5 (20%) patients took 2 weeks;
- and 2 other patients took 4 weeks.

This was due to a delay in the pathology service and/or to the lack of attendance of the patient for the result of the biopsy. In another three cases, the time was excessively long, though each of them had its particularities. One patient remained in this service for 50 days due to an inconclusive core-bx and was submitted to a nodulectomy. She therefore had to wait for the bureaucratic paperwork for the surgical procedure, having confirmed breast CA in the anatomopathological report of the piece. Another patient presented herself to the outpatient clinic shortly before the end of the year, in 2015, and its holiday season. She had previously undergone a nodulectomy with a diagnosis of benign pathology, and therefore her biopsy was postponed, prolonging her stay up to 105 days. A third patient was affected by a strike from HUM professionals in April and May 2015, which caused the biopsy to be carried out 3 months after her first visit. Two weeks later she was referred to a reference service and remained in our service for 112 days.

Thus, the mean time between the first consultation and the referral to CACON was 19.9 days with a median of 7 days. It should be noted that, if we disregarded the three outlier cases, the mean time would be 10.5 days.

The more efficient the service, the faster the patient is diagnosed and can begin their treatment. The country has advances in breast CA treatments, with Federal Law No. 12.732/2012 granting every patient with neoplasia the right to receive their first treatment within 60 days from the day of the diagnosis[14]. Despite that, the mean time for diagnostics and for the beginning the treatment of patients with palpable tumors exceeds 180 days in most of the country[15]. With this in mind, there was a great effort so that breast CA diagnoses could be given in the shortest possible time, and patients could be referred to a reference service as soon as possible.

Regarding the case of atypical ductal hyperplasia, although an open biopsy was advisable to confirm a diagnosis of malignant neoplasia, it was decided to refer the patient to a reference service, after 14 days in our service. We consider such a decision to be appropriate as it avoids the risk of delayed probable diagnosis of malignant neoplasia in the aforementioned case.

A limitation of the study includes the fact that any research involving medical chart review (in this case, physical/printed ones) may affect data collection due to factors such as scarcity of information, poor inclusion of information, poor completion of the form and illegible handwriting. The lack of a standardized medical chart by the Mastology Outpatient Clinic of the HUM, which began its activities in January 2014, resulted in great difficulty for data collection. Thus, in order to improve anamnesis and the search for information, a standardized chart was created and adjusted for the clinic's reality, in mid-2016. With this, future studies in the area are expected to be more complete and to have fewer obstacles in data collection, in addition to most certainly improving patient care.

## CONCLUSION

The present study concluded that this Mastology Outpatient Clinic in the HUM presented similar epidemiological characteristics to the literature in the studied period. Considering that it was a specialized clinic, most referrals were in fact justified, with imaging tests worthy of further investigation. Minimally invasive procedures fulfilled their roles in confirming benign and malignant breast diseases diagnoses. There was success in analyzing patients with alterations in their screening exams for breast CA, and determining the presence of a malignant disease in the shortest time possible.

The present study is pioneering in this region, since this mastology outpatient clinic has recently started its activities. This work is expected to allow for and encourage further studies in this area.

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