**Best Scientific Papers
of Mastology - 2020**

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Mastologia

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TREATMENT

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ADVANCED DISEASE TREATMENT

SURGERY AND RECONSTRUCTION

Editorial supplement: the best scientific papers in 2020

Adriana Magalhães de Oliveira Freitas[1], Vilmar Marques de Oliveira[2], Gil Facina[3]

Dear friends,

2020 was a challenging year for everyone. We were unexpectedly affected by the COVID-19 pandemic, which caused major impacts around the world. Therefore, the 23rd edition of the Brazilian Congress of Mastology, which would be held in Florianópolis, had to be postponed considering the audience's safety.

We were sorry for not being to provide, at that moment, to more than one thousand confirmed attendees, the content that had been built with the effort of experts from different regions of our country. A lot of work has been done to elaborate a special and productive scientific schedule; besides, we also had focused on your stay in Florianópolis being a pleasant experience.

During the pandemic, we were apart from friends, family members, and had to deal with the challenge of treating our patients in a chaotic scenario. Many have lost their beloved ones, and others were victims of the new Coronavirus themselves. The moment called for supportive union, and all efforts were addressed to fight the consequences of the pandemic.

Still, the Organizing Committee remained together and worked to make sure the structure of the event scheduled for 2021 could be peaceful. We were able to maintain almost all of the sponsorship budget and number of attendees, which translates the force and union of the Brazilian Society of Mastology, its associates and supporters. Encouraged by this trust, we are planning a new event to be presented to mastologists next year.

The 23rd edition of the Brazilian Congress of Mastology will be held between on April 7 to 10, 2021, however, with caution and consideration. After discussing the possibilities with the national board of the Brazilian Society of Mastology, we decided to organize a virtual event, to guarantee a highly qualified event and safety for all. The updated schedule will emphasize the most relevant topics of 2020, and will include national and international speakers, intriguing discussions about the daily practice and a new opportunity to submit scientific papers.

This will be an event of the Brazilian Society of Mastology for all Brazilian mastologists! The event will show the maturity of our specialty, in the capacity to overcome obstacles and prevail.

We appreciate all of the support and confidence in our society.

We wish health to all of our associates and family members.

In April 2021, we hope to find you in this virtual event for our specialty!

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Conflict of interests: nothing to declare.

INTRAOPERATIVE EVALUATION OF SENTINEL LYMPH NODE IN THE ERA OF ACOSOG Z0011

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Introduction: Intraoperative evaluation of sentinel lymph node was routinely conducted to assess the presence or absence of metastasis and decide, during the same surgical procedure, whether to perform an axillary dissection, which would avoid a second surgical procedure. However, with the current recommendations for conservative axillary treatment, the role of the intraoperative assessment is questionable. Results of the American College of Surgeons Oncology Group Z0011 (ACOSOG Z0011) randomized trial allow skipping the axillary lymph node dissection in patients with two positive axillary sentinel lymph nodes treated with conservative surgery, which would also allow not performing the intraoperative evaluation of sentinel lymph node because the result would not change the surgical approach. However, the rate of axillary re-excision was not described for cases of ACOSOG Z0011 exclusion criteria after definite anatomopathological results. **Objectives:** To assess the rate of axillary retreatment in patients submitted to conservative breast surgery in the era of ACOSOG Z0011. **Method:** This is a retrospective cohort study of patients who had invasive breast carcinoma up to 5 cm, clinically negative axilla, and underwent conservative breast surgery and sentinel lymph node dissection from February 2008 to December 2018. **Results:** We evaluated 415 patients – 318 (76.7%) with negative sentinel lymph node, and 97 (23.3%) with positive. Among positive cases, 56 (57.8%) were treated with sentinel lymph node biopsy, and 41 (42.2%) were submitted to axillary lymph node dissection. Intraoperative evaluation occurred in 90.2% of cases prior to the publication of ACOSOG Z0011, decreasing to 30.8% after publication (p<0.00001). The rate of surgical re-excision due to ACOSOG Z0011 exclusion criteria was only 3.7%. The main causes were the presence of metastasis in three or more axillary lymph nodes or capsular extravasation. **Conclusions:** Intraoperative evaluation of sentinel lymph node substantially decreased in patients with early-stage breast carcinoma treated with conservative surgery and sentinel lymph node biopsy after implementing the axillary treatment proposed in the ACOSOG Z0011 guidelines, and the rate of axillary surgical retreatment due to exclusion criteria was minimal.

REAL-WORLD DATA: EVALUATION OF SENTINEL LYMPH NODE BIOPSY AFTER COMPLETE PATHOLOGICAL RESPONSE OF BREAST CANCER TO NEOADJUVANT CHEMOTHERAPY IN PATIENTS WITH TRIPLE-NEGATIVE AND HER2 POSITIVE BREAST CANCER IN A COHORT FROM RIO GRANDE DO SUL, BRAZIL

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Introduction: International publications show a high correlation of axillary response and complete pathological response (CPR) of breast cancer to neoadjuvant chemotherapy (NACT) in patients with triple-negative (TN) and HER2 positive (HER2+) tumors. The need for surgery is being questioned when percutaneous breast biopsy after NACT indicates CPR, despite recent presentations demonstrating high rates of false-negative (FN), ranging from 17–39%. The proper axillary management in patients with CPR of breast cancer is still discussed: is it possible to avoid the axillary evaluation? What is the axillary downstaging rate? Identifying any residual disease to adjust the adjuvant treatment is also a concern. Retrospective studies reveal a rate of positive lymph nodes lower than 2% in this population when CPR of breast cancer is reached. **Objective:** To identify the rate of complete axillary response in patients with CPR of breast cancer to NACT in TN and HER2+ tumors. **Methods:** This is a retrospective cohort study conducted in two health facilities in Southern Brazil. The sample consists of 130 patients who underwent NACT, followed by surgery between January 2016 and December 2018. The patients included were treated in the public health system (*Sistema Único de Saúde* – SUS) and private health system. **Results:** Among the 130 patients submitted to NACT, 76 (58%) had HER2+ and TN immunohistochemical subtypes – luminal HER2+: 23 patients, HER2+ pure: 15, TN: 38. Among these patients, 33 (43%) reached CPR of breast cancer, of which 9 corresponded to luminal HER2+, 10 to HER2+, and 14 to TN. In patients with CPR of breast cancer, 29 (87.8%) had no lymph node disease. Out of the 10 HER2+ pure with CPR of breast cancer, 100% had no lymph node disease, and 8 were positive pre-NACT. Among the 14 TN, only 1 patient had 2 positive lymph nodes (2+/10), and she was cN0 prior to NACT (with negative axillary ultrasound). Among the 5 pre-NACT clinically positive lymph nodes in TN patients (including 1 patient with cN2), all had CPR to NACT (3 axillary dissections and 2 sentinel lymph node biopsies – SLNB). Out of the 9 patients with luminal HER and CPR of breast cancer, 4 had clinically positive lymph nodes before NACT, and 3 remained positive (15% of conversion). **Conclusion:** In this study, CPR of breast cancer was highly correlated with negative axillary evaluation after NACT (87.8%), mainly in the TN and HER2+ pure subtypes (98%), even if the lymph node was clinically positive before NACT, with 100% of conversion of HER 2+ pure cases. SUS patients used trastuzumab as the single drug targeting anti HER2. These data agree with those found in the literature, despite the small sample. Larger studies are necessary, as around 70% of our population depend on SUS. With more published data, considering the performance of SLNB in HER2+ pure and TN patients submitted to NACT could become a common practice, reducing morbidity. The safety of this practice in the luminal HER+ subtype remains unclear.

ATYPICAL AXILLARY LYMPHADENOPATHY MIMICKING AN OCCULT BREAST CARCINOMA IN A PATIENT DIAGNOSED WITH SARCOIDOSIS: CASE REPORT

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Introduction: Occult breast carcinoma is a rare presentation of breast cancer, with histological evidence of axillary lymph node involvement and clinical and radiological absence of malignant breast lesions. Its survival is similar to that of the usual presentation. The treatment consists of modified radical mastectomy or axillary drainage with breast irradiation, resulting in similar survival, associated with systemic therapy according to the staging. Neoadjuvant therapy should be considered in N2-3 axillary cases. Differential diagnoses of axillary lymphadenopathies include: non-granulomatous causes (reactive, lymphoma, metastatic carcinoma) and granulomatous causes (infectious – toxoplasmosis, tuberculosis, sarcoidosis, atypical mycobacteria). **Objectives:** To report the case of a patient who needed a differential diagnosis among the various causes of axillary lymphadenopathy. **Methods:** This is a literature review conducted in the PubMed database, using the keywords «granulomatous lymphadenitis», «breast sarcoidosis», «occult breast cancer». Inclusion and exclusion criteria were applied. **Case report:** V.F.S., female, 51 years old, was referred to an evaluation of axillary lymphadenopathy in May 2019. She was followed by the department of pulmonology due to mediastinal sarcoidosis since 2017. Physical examination indicated breasts without changes. Axillary lymph nodes had increased volume and were mobile and fibroelastic. Mammography revealed only axillary lymph nodes with bilaterally increased density, and the ultrasound showed the presence of atypical bilateral lymph nodes. Neither presented breast lesions. Axillary lymph node core biopsy was compatible with granulomatous lymphadenitis. This result corroborates the diagnosis of sarcoidosis affecting peripheral lymph nodes. The patient was referred back to the department of pulmonology, with no specific treatment since she is oligosymptomatic. **Discussion:** Despite the context of benign granulomatous disease, malignancy overlying the condition of sarcoidosis must be ruled out. The biopsy provided a safe and definitive diagnosis, excluding the possibility of occult breast carcinoma. The patient will continue to undergo breast cancer screening as indicated for her age and usual risk. **Conclusion:** In the presentation of axillary lymphadenopathy, the mastologist must know the various diagnoses to be considered. The most feared include lymphoma and carcinoma metastasis with occult primary site. A proper workup can determine the diagnosis and guide the appropriate treatment.

CASE REPORT OF ADENOID CYSTIC CARCINOMA OF THE BREAST – A RARE LESION WITH FAVORABLE PROGNOSIS

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Introduction: Adenoid cystic carcinoma (ACC) is a rare type of breast tumor – less than 0.1% of breast malignancies. Usually, ACC is triple-negative, with lymph node involvement not exceeding 2%, and metastases are uncommon. When localized, the disease is indolent with an excellent prognosis. **Objective:** To report a case of ACC of the breast and provide data for the medical literature. **Method/Case report:** J.S.M.S., 44 years old, had a 1 cm nodule in the right breast (RB) and free axillae. Mammography (MMG) showed focal asymmetry in the upper outer quadrant (UOQ) and BI-RADS 0. Ultrasound (US) revealed a solid, circumscribed, periareolar lesion with areas of cystic degeneration, 1.2 cm, BI-RADS 3. Fine-needle aspiration biopsy (FNAB) suggested fibroadenoma. Lesion resection led to the diagnosis of ACC, histological grade 1 (HG1), nuclear grade 1 (NG1), with associated ductal carcinoma *in situ* (DCIS), and sentinel lymph node with no neoplasia. Immunohistochemistry (IHC) revealed estrogen receptor-negative (ER-), progesterone receptor-negative (PR-), HER2 negative (HER2-), and Ki67 10%. Staging had no evidence of distant disease. The patient did not receive chemotherapy (CT) but underwent 18 sessions of radiotherapy (RT) in the breast with a boost to the tumor bed. She remains disease-free at 8 months of follow-up. **Results/Discussion:** ACC has low malignant potential with histology similar to that of primary ACC of the salivary gland (which is aggressive); in the breast, it represents 0.058% of all ACC cases. It is more common in Caucasian women aged 60 to 70 years and usually subareolar (approximately 50% of cases). Imaging tests are nonspecific. ACC has lymph node involvement in about 2% of cases. Histology shows epithelial and myoepithelial cells distributed in the classic tubular or cribriform architecture. IHC reveals epithelial cells positive for CD117 and myoepithelial cells positive for smooth muscle actin, calponin, and p63. ACC of the breast expresses proto-oncogene c-KIT and a chromosomal translocation similar to its salivary counterpart: t (6; 9) (q22-23; p23-24). Treatment consists of surgery with free margins. Axillary dissection, CT, and RT have a questionable role due to the indolent course of the disease. Until now, small studies have not suggested a benefit in overall survival when adding adjuvant CT. Although triple-negative, its prognosis is favorable. Local recurrence is approximately 3–18%, and 10-year survival is above 90%. **Conclusion:** The rarity of these tumors and their favorable course raise questions about the best treatment for ACC. The benefit of axillary dissection, CT, or RT remains unknown because the prognosis seems very favorable with only surgery, despite its triple-negative status. Further studies are necessary to adopt the optimal strategy for these tumors.

BILATERAL DIFFUSE PSEUDOANGIOMATOUS STROMAL HYPERPLASIA IN A PREGNANT WOMAN: CASE REPORT

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Pseudoangiomatous stromal hyperplasia (PASH) is a benign proliferation of breast stroma, usually described as an incidental microscopic finding. Clinically, it can manifest as a palpable and well-circumscribed mass or, in rare cases, as a diffuse bilateral process, causing massive and rapid breast growth. The most widely accepted theory about PASH is the hormonal stimulation of breast myofibroblasts, mainly caused by progesterone. A definitive PASH diagnosis is based on typical findings, such as stromal hyperplasia and slit-like channels. The main clinical differential diagnosis is fibroadenoma or phyllodes tumor and, histologically, low-grade angiosarcoma. This work aims at evaluating the maternal and fetal prognosis of a diffuse PASH case in a pregnant woman. This is the case report of a 27-year-old woman with no comorbidities, previously diagnosed with PASH in January 2018, without clinical repercussion or treatment at the time. In 2019, in the 16th week of her second pregnancy, she noticed a rapid and significant breast growth. In the first trimester, she had a weight gain of 12 kg, and her breasts had a four-fold volume increase, preventing her from performing routine activities, such as standing and walking. Over the days, still with progressive breast tissue growth, she showed a considerable reduction in peripheral breast vascularity, intense pain, hyperemia, skin necrosis, overall worsening, and hemodynamic repercussion. Since this is a case little reported in the literature and given the clinical and hemodynamic conditions of the patient, the treatment chosen was bilateral mastectomy, performed with her consent in October 2019. In the immediate postoperative period, she progressed to fetal death and hemodynamic stabilization in the intensive care unit. After a few days of hospitalization, stable, and with good progress, she was discharged for outpatient follow-up. Anatomopathological results corroborated the PASH diagnosis made in 2018. Data on the final pregnancy outcome and the consequences for mother and fetus will be reported. Data analysis was based on a review of the patient's medical records. We concluded that each case should be assessed individually, taking into account the clinical, surgical, and obstetric aspects to determine the best workup and therapeutic approach.

BREAST SCHWANNOMA – A RARE ENTITY

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Introduction: Schwannoma is a benign tumor originating from Schwann cells present in the myelin sheath of peripheral nerves. Breast presentation is rare, and its clinical manifestation can mimic that of breast carcinoma. **Objectives:** To report the case of a patient with breast Schwannoma. Method/Case report: T.S.L., 14 years old, presented a nodule in the left breast (LB) with local growth for 2 months. Ultrasound (US) revealed a cystic formation in the lower outer quadrant of 1.8x1.3 cm, BI-RADS 2. Physical examination indicated a nodular skin lesion next to the LB fold, with 2 cm at 5 h, 7 cm from the nipple. After the surgical excision of the nodule, anatomopathological examination showed a spindle cell neoplasm without nodular-pattern atypia or malignancy characteristics. Immunohistochemistry (IHC) confirmed the Schwannoma diagnosis. Considering this scenario, annual control was started, and the patient has no evidence of the disease after 5 years of diagnosis. **Results/Discussion:** Schwannoma is a typically benign tumor originating from Schwann cells in the myelin sheath of the nerves. It may result from the parasympathetic or sympathetic division of the autonomic nervous system of the organ. It is one of the few truly encapsulated tumors of the human body and almost always solitary. It is usually located in the trunk, flexor surfaces, retroperitoneum, and rarely in the breast, representing approximately 2.6% of Schwannoma cases. It affects individuals aged 30 to 50 years, with equal incidence in both men and women. The skin lesion presents as a sessile, asymptomatic nodule of 1–3 cm and slow growth. Pain and sensitivity may be present when tumor growth causes nerve compression. Mammography (MMG) shows well-circumscribed opacity, with a density similar to that of soft tissue. US usually reveals well-defined, hypoechoic, solid lesions and can include the target sign, posterior acoustic enhancement, and continuity with peripheral nerves. The definitive diagnosis is made histologically, and the differential diagnosis involves other spindle cell neoplasms, such as fibroadenoma, phyllodes tumor, leiomyoma, fibromatosis, and, rarely, metaplastic carcinoma. Fine-needle aspiration biopsy (FNAB) showed palisading fibrillar cells with non-atypical spindle-shaped nuclei forming Verocay bodies. IHC indicates intense and uniform expression of S-100 protein. Malignant transformation occurs in 3–10% of cases, with high cellular proliferation, atypical mitotic activity, cellular and nuclear pleomorphism, and foci of necrosis. The treatment of choice is surgical excision of the lesion. Tumor recurrence is low and associated with the mitotic index. **Conclusion:** The case reported and publications found bring to light the discussion on diagnosis and treatment of breast Schwannoma, a rare and benign neoplasm in this location.

BREAST CANCER IN A 23-YEAR-OLD NURSING MOTHER – CASE REPORT

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Introduction: Breast cancer is uncommon in women below 35 years of age, and the diagnosis can be delayed due to higher breast density and less attention during clinical examination. Survival in young women is worse than in individuals from an older age group, and treatment may have a greater physical and psychological impact on these patients. This relevant report describes the clinical case of a 23-year-old nursing mother, non-smoker, and without a family history of cancer, who detected a nodule in the left breast during self-examination. She sought medical care after three months due to nodule increase and local pain, which was treated as mastitis. Without improvement, she visited the mastology department, which identified, during clinical examination, a 9 cm, mobile, ill-defined nodule, and negative axillary nodes. Breast ultrasound found two spiculated, heterogeneous nodules, with ill-defined borders in the left upper outer quadrant. Core biopsy revealed an invasive breast carcinoma with luminal B immunophenotype. The patient underwent neoadjuvant chemotherapy with good response, lumpectomy, and sentinel lymph node biopsy. She has been receiving chemotherapy for subsequent radiotherapy and hormone therapy. **Objectives:** Since currently breast cancer has no proven preventive measure, this work aims at highlighting the importance of raising awareness about the possibility of cancer among young patients for early diagnosis and prompt treatment so as to increase the survival of diagnosed patients. **Discussion:** Breast cancer is the main death-related neoplasm in the Brazilian female population, representing a challenge for public health. The main risk factors are family history, advanced age, and reproductive characteristics. Studies show that the most common histological type in young individuals is invasive ductal and that this age group has peculiarities concerning risk factors, tumor biology, genetics, prognosis, and social and psychological impact. Classic symptoms, such as breast and axillary nodules and changes in the breast and nipple skin, indicate the need to seek medical help. Treatment is not distinct from that of older age groups, but the diagnostic difficulty warns about the importance of paying attention to any suspicious sign of this disease. Regarding prevalence, breast cancer in young people is rarer than in older individuals, but recurrence is higher. Clinical suspicion can be hindered by the greater breast density and the lack of disease screening among these patients. **Conclusion:** Early clinical suspicion based on detailed medical history and physical examination contributes to effective diagnosis and therapeutic approach, seeking a better quality of life and higher patient survival.

CLINICAL AND LABORATORY PROTOCOL IN SUSPECTED CASES OF BREAST IMPLANT-ASSOCIATED ANAPLASTIC LYMPHOMA

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Introduction: Breast implant-associated anaplastic large cell lymphoma (BIA-ALCL) is a rare entity. As a result, care in the diagnostic flowchart is not systematized and known by all mastologists. Non-systematic evaluation can lead to false-negative assessments, making it crucial to have systematic knowledge about the subject. **Methods:** The Research Ethics Committee of the Hospital de Câncer de Barretos approved this study, under the number 23026719.5.0000.5437/2019. We sought to conduct an integrative review on the subject, aiming at identifying the diagnostic flowchart and therapeutic care to be adopted by mastologists. **Results:** BIA-ALCL diagnosis should be considered in patients with peri-implant seroma when the implant was placed for more than a year. Despite being more associated with textured implants, the disease was also identified in smooth implants. In clinical practice, breast ultrasound is the examination of choice. The main finding is peri-implant seroma, with puncture. Breast magnetic resonance imaging can help evaluate implant integrity. Positron emission tomography-computed tomography (PET-CT) can be used in high suspicion or confirmed cases, improving the staging. Some precautions are essential in the care of the collected fluid; otherwise, it can lead to false negatives. Cytology should be performed on the day of collection, in less than 6 hours. Centrifuging the fluid collected should be considered in order to obtain a smaller volume but with high cellularity. The centrifuged material can be processed to form a paraffin block (cell block), in which the Wright-Giemsa stain will be used. The material can be sent immediately or after adding 50% alcohol. Surgery should be indicated in cases of tumor mass, high clinical suspicion, or recurrent seroma. In these cases, drainage of the peri-implant content and capsulectomy with concomitant removal of the breast implant should be carried out. Bilateral implant removal is recommended if BIA-ALCL is confirmed; however, in case of suspected diagnosis, the indication becomes questionable, and the surgeon must discuss the situation with the patient. **Conclusion:** Diagnostic systematization reduces the possibility of false-negative results, improving the care described above.

MONOPHASIC BREAST SYNOVIAL SARCOMA – CASE REPORT

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Introduction: Breast synovial sarcoma is extremely rare, with few cases described. It corresponds to 6–9% of soft tissue sarcomas and is more frequent in extremities (80%), trunk (8%), and abdomen (7%) in young adults. It usually does not affect the breast. **Objectives:** To report a rare case of monophasic breast synovial sarcoma and provide data for the global literature. **Method/Case report:** G.S.B., 97 years old, presented a 7 cm nodule in the left breast and negative axillary nodes. Ultrasound (US) revealed a heterogeneous nodule of 6.0 x 5.5 cm, BI-RADS 5. She did not have mammography. Core biopsy showed spindle cell neoplasm. Immunohistochemistry (IHC) indicated mesenchymal lesion, without differentiating stromal components of fibroepithelial tumor from the mesenchymal lesion. Rapid growth with ulceration and tumor bleeding were identified. Urgent mastectomy showed a malignant neoplasm of spindle cell pattern and high grade, with 12 cm, involved lateral margin, and 19 negative axillary lymph nodes. IHC of the surgical specimen indicated monophasic synovial sarcoma. Before the wide excision, she had a rapidly progressive recurrence in the sternum, making it non-resectable. During radiotherapy (RT), local progression was identified. She has been receiving chemotherapy (CT) with ifosfamide and adriamycin. No evidence of distant disease was found after 9 months of diagnosis. **Results/Discussion:** Synovial sarcoma corresponds to approximately 0.06% of all breast neoplasms, originating from their mesenchymal tissue, with variable epithelial differentiation. The term synovial sarcoma is inadequate, deriving from its frequent juxta-articular location. Its incidence is approximately 1.5 per 1 million individuals, with a mean age of 32 years and a male:female ratio of 1.2:1. The main histological subtypes are: classic biphasic and monophasic. Translocation t(X;18) (p11.2; q11.2) and expression of SYT/SSX gene fusion are present in more than 95% of cases. IHC shows an intense expression of vimentin and CD99, and focal of Bcl2, EMA, CKAE1-AE3, actin, and desmin, as well as negativity for S100, cytokeratins, hormone receptors, myosin, and caldesmon. The differential diagnosis is made with other spindle cell entities, such as fibromatosis, solitary fibrous tumor, myofibroblastoma, metaplastic carcinoma, and other sarcomas. Synovial sarcoma has a moderate response to chemotherapy with anthracyclines. The treatment includes wide surgical resection and RT. Metastases occur in about 50% of cases and are present at diagnosis in 16% to 25%; they are more frequent in the lung (75%), regional lymph nodes (15%), and bones (10%), tending to late recurrence and metastases. The 5-year disease-free survival is 60%. **Conclusion:** The heterogeneity of the disease and its low incidence hinder prospective studies addressing therapeutic options with better long-term results.

DESMOID-TYPE FIBROMATOSIS IN THE MALE BREAST MIMICKING CANCER

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Introduction: Desmoid-type fibromatosis (DTF) is defined as a clonal proliferation of fibroblasts that emerges in soft tissues, with a tendency to infiltrate local tissues and toward local recurrence, but with no potential of distant metastases. The breast is an unusual location, corresponding to approximately 0.2% of all breast tumors. The literature has few DTF cases described in the male breast. The etiology of the lesion is unclear. Fibromatosis presents as a firm, painless, and mobile mass, which can be fixed to the pectoralis major or the skin. Radiological characteristics are nonspecific. The lesion manifests as a suspicious solid mass with irregular margins, making it difficult to differentiate the lesion from breast cancer on mammography, ultrasound, and magnetic resonance imaging. Immunohistochemistry (IHC) shows positivity for vimentin, ß-catenin, and actin, with negative desmin. Standard treatment consists of resection of the lesion with margins. **Objective:** To report a rare case of DTF in the male breast. **Method:** This is the description of the clinical case based on medical records. **Result:** A 42-year-old man had a nodule in the left breast for 1 year. He had no medical or family history of breast cancer. The patient presented a firm tumor with ill-defined margins, slightly mobile, adhered to the skin, measuring 5 cm, in the left upper inner quadrant during physical examination. Mammography showed asymmetry in the left breast, BI-RADS 4 Core biopsy indicated fibrosis, with segmental resection of the lesion. Histology revealed fibrous infiltrative neoplasm, with an intense collagenic aspect, 3.5 cm, and free margins. IHC was positive for vimentin, actin, and -catenin, compatible with DTF. **Conclusion:** DTF in the male breast is a rare, locally invasive, benign tumor. It presents suspicious clinical and radiological aspects similar to those of breast cancer. The main treatment consists of resection of the lesion with satisfactory margins.

SYNCHRONOUS PRESENTATION OF INVASIVE DUCTAL BREAST CARCINOMA AND FOLLICULAR LYMPHOMA: A DIAGNOSTIC CHALLENGE

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Introduction: The presentation of synchronous tumors is rare. At the same time, the increase in the incidence of non--Hodgkin lymphoma in patients treated for malignant breast neoplasm submitted to radiotherapy is a known fact. However, some authors have reported cases of breast neoplasm and lymphoma at initial diagnosis. It is unclear whether they originate from common underlying mechanisms, triggering others, or if one disease process is completely independent of the other. **Clinical case:** A 69-year-old asymptomatic female patient was referred to the mastology department due to abnormalities in the routine mammography. Upon presentation, she had no associated B symptoms, and the physical examination revealed a palpable nodule in the left breast and suspicious palpable left axillary lymphadenopathy. Mammography prior to the appointment showed a 15 mm nodule in the left breast with well-defined margins. A complementary ultrasound revealed multiple simple cysts in the left breast, the largest with 1.3 cm and retroareolar. The anatomopathological report of the core biopsy and fine-needle aspiration biopsy (FNAB) indicated an invasive ductal carcinoma in the left breast, with T2N2M0 as the initial clinical staging. Immunohistochemical evaluation revealed estrogen receptor-positive (ER+++ 95%), progesterone receptor-negative (PR-), HER2-, Ki67 8%. FNAB of axillary lymph node showed no malignancy in the sample. Staging tomography had no evidence of distant lesions. The patient underwent a radical mastectomy and axillary lymph node dissection with plans for adjuvant chemotherapy. The final anatomopathological report of the surgical specimen revealed a well-differentiated invasive ductal breast carcinoma associated with intraductal carcinoma, measuring 2.7x1.9x1.8 cm and with free margins. A total of 45 lymph nodes were dissected, with no evidence of involvement by carcinoma. However, an atypical proliferation strongly suggestive of follicular lymphoma was identified. Immunohistochemistry was positive for CD 10, Bcl-6, and Bcl-2, compatible with follicular lymphoma, grade 1-2 (predominantly follicular >75%). **Discussion:** Literature reviews show that 88.9% of case reports have failed in diagnosing the second synchronous neoplasm. Usually, FNAB and even core biopsy of these lymph nodes does not guarantee the diagnosis, given the high rates of false-negative in these cases, and their findings are often insufficient. Imaging diagnosis is frequently unclear in these situations, and the diagnosis is mainly reached after surgical treatment and final histological evaluation. **Final considerations:** The case brings to light the discussion about the treatment of a complex, hard to diagnose situation, which leads to delayed management. Multidisciplinary follow-up is crucial for this diagnosis so as to prevent unfavorable outcomes.

TRIPLE-NEGATIVE BREAST CARCINOMAS AS TUMORS UNTRACEABLE BY CONVENTIONAL RADIOLOGICAL METHODS: A RETROSPECTIVE COHORT

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Introduction: Invasive breast carcinoma represents a heterogeneous group of lesions that differ in their molecular and histological characteristics. Perou et al. evaluated breast tumors using the DNA microarray technique and classified them into four molecular subtypes: Luminal A (LA), Luminal B (LB), HER2 overexpression (HER2), and triple-negative (TN). Immunohistochemistry approximately identifies the subtypes. The TN subtype is negative for estrogen and progesterone receptors and HER2 protein. This subgroup is comprehensive, with 75% of them being basaloid, that is, cells with a molecular profile similar to that of myoepithelial cells and a high expression 5, 6, 14, and 17 cytokeratins, vimentin, and P-cadherin. These tumors tend to be more aggressive, have higher rates of cell proliferation, and, therefore, a worse prognosis. Clinically, triple-negative carcinomas are more strongly associated with younger patients, early local and distant recurrence. Given their rapid progression, they can be clinically diagnosed in the interval of screening tests. **Objective:** To compare clinical and radiological aspects of TN and other molecular subtypes of breast cancer at diagnosis. **Method:** The study retrospectively evaluated data collected from medical records of patients diagnosed with breast cancer and treated at the Hospital São Paulo from 2013 to 2016. **Results:** In the study period, 235 cases of breast cancer were diagnosed. The incidence in patients under 39 years was 4.2% for LA, 4.9% for LB, and 8.3% for TN. At diagnosis, 83% of patients with TN tumors had clinical complaints, of which 96% were nodules. In mammographies, TN presented as nodules in 100% of cases, LA in 68%, LB in 71%, and HER2 in 50%. Microcalcifications were identified in 14% of LA cases, 21% of LB, and 50% of HER2. TN had no cases of microcalcifications or asymmetries. Among the other subtypes, the diagnosis by physical examination represented 35% to 53% of cases. As to the staging at diagnosis, TN cases presented ≤2 cm tumors in 25% of cases. The LA, LB, and HER2 subtypes presented as ≤2 cm tumors, respectively, in 61%, 49.4%, and 43% of patients. Lymph node involvement by neoplasm at diagnosis occurred in 3.35%, 17.5%, 14.3%, and 33.3% of LA, LB, HER2, and TN cases, respectively. **Conclusion:** TN carcinomas affect a greater number of young patients, outside the screening age group. In our sample, TN tumors were diagnosed based on clinical complaints and showed no association with non-palpable breast lesions. TN is the subtype with the highest probability of interval tumors, untraceable by conventional exams, and, as a result, other screening options, such as serum assays, have been discussed.

CAVERNOUS HEMANGIOMA: A RARE TUMOR IN THE BREAST REGION

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Introduction: Hemangiomas are benign vascular tumors rarely located in the breast (incidence of 0.4% to 0.8%). They mainly affect post-menopause women on hormone replacement therapy (HRT). These tumors are classified as capillary or cavernous according to the size of vessels involved and can show heterogeneity in imaging tests. **Case report:** The patient is a woman aged 56 years, G3P3, living in the city of Florianópolis. She has been on HRT, without a family history of gynecological cancer. She reported breast implant and bariatric surgery in 2007. The patient sought medical care due to a tumor in the left breast that she noticed six months before, with slight growth. Physical examination identified a superficial purplish nodule in the left axillary tail, measuring 1.5 cm. Magnetic resonance imaging (MRI) revealed an intramammary lymph node (BI-RADS 2); mammography (MMG) indicated a 2.4 cm nodule in the left axillary tail (BI-RADS 4), suggesting biopsy; ultrasound (US) identified an irregular peripheral nodule at 2 h on the left, with the same classification. Core biopsy revealed cavernous hemangioma. Mammaplasty was performed with excision of the lesion. **Commentaries:** In hemangiomas, imaging findings can vary. MMG usually shows an oval or lobular mass, isodense or high-density, and circumscribed margins. The heterogeneity in the US may be related to vascular channels histologically seen in cavernous hemangiomas. MRI characteristics vary according to the possibility of internal thrombosis, but they often include an ovoid mass and circumscribed margins. The MRI report showed no hemangioma; however, MMG and US indicated similar characteristics. Although rare and with a heterogeneous presentation, hemangioma should be remembered as a differential diagnosis since, in addition to its similarities to benign lesions, such as bruises and sebaceous cysts, it can also be mistaken for inflammatory carcinoma and ductal carcinoma *in situ*, mimics that have been described in the literature.

CASE REPORT: DESMOID TUMOR OF THE BREAST

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Desmoid tumors are neoplasms that originate from fascial or musculoaponeurotic structures, constituted by fibroblast proliferation. It has no metastatic or differentiation potential, but is locally aggressive and has high rates of recurrence even after complete resection. It represents 0.03% of all neoplasms. This study aimed at reporting a rare clinical case of a young patient diagnosed with a desmoid tumor of the breast after a silicone implant surgery.

ENCAPSULATED PAPILLARY CARCINOMA CONCOMITANT WITH AXILLARY METASTASIS OF NEUROENDOCRINE CARCINOMA – CASE REPORT

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Introduction: Encapsulated papillary carcinoma corresponds to approximately 1% of breast tumors. Although rare, it has a good prognosis, slow growth, and a 10-year survival close to 100%. Axillary metastases of non-breast neoplasms are also uncommon, and the coexistence of metastatic non-breast neoplasm in the axilla and another histological type of breast neoplasm is exceedingly rare. **Objective:** To describe a case of breast neoplasm with axillary metastasis of non--breast disease. **Method/Case report:** F.R., 95 years old, had a nodule in the left breast (LB) for 1 year, with progressive growth. Examination revealed an irregular nodule in the entire LB with retraction of the papilla, measuring 11x12 cm, and hardened lymphadenopathy of 2 cm in the right axilla. Ultrasound showed a mixed tumor with a multinodular central mass of 18.3x19.7 cm and two enlarged, heterogeneous lymph nodes in the right axilla. Core breast biopsy indicated carcinoma with a papillary growth pattern. She underwent left mastectomy and lymph node excision in the right axilla. Anatomopathological results revealed a 14 cm encapsulated papillary carcinoma with free margins and right axillary lymph node as a high-grade metastatic neuroendocrine carcinoma. She is on exclusive hormone therapy with tamoxifen. When investigating the primary axillary site, abdominal computed tomography (CT) showed an expansive, predominantly cystic, retroperitoneal formation on the left side, in close contact with the tail of the pancreas, adrenal gland, and left renal vein, pending clarification, probably related to the right axillary lesion. Due to clinical conditions, she continues without a diagnosis for the primary site of axillary metastasis. **Results/Discussion:** Encapsulated papillary carcinoma is characterized by being solitary, unilateral, of slow growth, with papillary proliferation, central malignancy, surrounded by cystic ductal dilatation. It has a good prognosis and is rarely metastatic. Usually, it presents low or intermediate nuclear grade and strong positivity for estrogen receptor. Neuroendocrine tumors are a relatively rare group of neoplasms in any part of the body, occurring in the digestive tract in 62%–82% of cases. They can be asymptomatic or have symptoms associated with the primary tumor or metastasis. They are a heterogeneous group, often found in the retroperitoneum, abdominal lymph nodes, and mediastinum, usually have multiple metastases, and their primary site is hard to identify. Axillary metastases are uncommon, mainly coexisting with breast neoplasm of good prognosis. **Conclusion:** The rarity of axillary metastasis of neuroendocrine carcinoma associated with the good prognosis of encapsulated papillary carcinomas gives scientific importance to the current case since its axillary approach allowed reaching an unlikely diagnosis of neoplasm with uncommon metastatic site.

CLINICAL AND IMAGING PRESENTATION OF MOLECULAR TYPES OF BREAST CANCER

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Introduction: Breast cancer is the second most common malignant neoplasm among women in Brazil and worldwide. Its incidence increases with age, especially in individuals older than 50 years. Mammography is the main screening test, has high sensitivity, and is the only method that has made an impact on mortality rate. Breast cancer is classified into molecular subtypes, based on immunohistochemical markers. The luminal A subtype (LA) presents estrogen receptor (ER) and progesterone receptor (PR) positive, HER2 negative, and low Ki-67 index. Luminal B (LB) shows ER and/or PR positive, HER2 negative, high Ki-67 index, or HER2 positive (luminal HER2). HER2 has HER2 overexpression and ER and PR negative. Triple-negative (TN) has ER, PR, and HER2 negative and high histological grade. **Objective:** To evaluate patient characteristics according to the molecular subtypes of breast carcinoma among individuals treated at the Hospital São Paulo – Universidade Federal de São Paulo. **Method:** This is a retrospective study based on the analysis of medical records of breast cancer cases from the Hospital São Paulo between 2013 and 2016. During this period, 235 patients were treated. Among them, 40% were classified as LA, 34% as LB, 8% as luminal HER2, 15% as TN, and 3% as HER2. The mean age was 57.6 years. The incidence of breast carcinoma was higher in women over 50 years of age in all subtypes: 75.2% for LA, 65% for LB, 58% for luminal HER2, 100% for HER2 overexpression, and 75.1% for TN. Regarding ethnicity, most women were white in all subtypes, accounting for 66.5% of cases. In all subtypes, the most common clinical complaint was nodule: 86% for LA, 86% for LB, 100% for HER2 overexpression, and 96% for TN. Among the mammographic findings, nodule was the most frequent in all subtypes. Luminal subtypes presented other findings, such as suspicious calcifications (14% for LA and 21% for LB), focal asymmetries (14% for LA and 5% for LB), and distortions (2% for LA and 3% for LB). **Conclusion:** Breast cancer has a higher incidence among Caucasian individuals and those aged 50 to 60 years. The clinical and imaging presentation of tumors is influenced by their molecular subtype: luminal subtypes have a greater diversity of findings and non-palpable lesions, while TN tumors usually manifest as palpable nodules.

BURKITT LYMPHOMA OF THE BREAST ASSOCIATED WITH HIV INFECTION – A CASE REPORT AND LITERATURE REVIEW

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Introduction: Breast lymphoma is a rare variety of this class of tumor in extra-nodal sites, accounting for less than 0.5% of malignant breast neoplasms and less than 3% of extra-nodal lymphomas. The most prevalent type of breast lymphoma is non-Hodgkin lymphoma (NHL) of large B cells. Burkitt lymphoma (BL) occurs in less than 6% of cases and is considered an even rarer subtype of the disease. According to the World Health Organization (WHO), BL can be classified into three clinical forms: endemic (associated with the Epstein-Baar virus), sporadic, and immunodeficiency-related. The clinical presentation of breast lymphoma is similar to that of carcinoma, and imaging tests cannot differentiate them. **Objective:** This case report aims at providing better knowledge about BL of the breast and conducting a literature review. **Case report:** A 52-year-old woman with a history of left breast carcinoma (2009) was surgically treated with quadrantectomy, sentinel lymph node biopsy in the left axilla, and adjuvant radiotherapy and hormone therapy. In 2019, she was diagnosed with Human Immunodeficiency Virus (HIV) infection and started antiretroviral therapy (ART). Four months later, she noted nodules in her left breast and underwent imaging and histopathological investigation of the lesions. Immunohistochemical results revealed NHL, with characteristics suggestive of BL of the breast. Positron emission tomography-computed tomography (PET-CT) for disease staging indicated lymphoma in stage IV-A (Ann Arbor Classification, 1988). The patient was admitted by the hematology team of the Hospital de Câncer de Barretos to start chemotherapy. **Discussion:** BL of the breast affects mainly young women, and its association with the pregnancy/lactation period is not unusual, which suggests a hormonal influence on its development. Secondary breast disease is more common, and differentiating primary and secondary lymphoma can be difficult. When associated with immunodeficiency, it is more frequent in patients infected by HIV, and less in individuals with other immunodeficiency causes. The breast lesion can be characterized by a painless nodule and possible systemic symptoms (sweating, fever, or weight loss). The main management of these cases consists of polychemotherapy, and the benefit of radiotherapy is unclear. Surgical treatments, such as mastectomy, are not indicated and are associated with worse survival. **Conclusion:** BL of the breast associated with immunodeficiency, concomitant with HIV infection, is an uncommon neoplasm that can progress to a poor prognosis. The appropriate and prompt diagnosis allows starting the best form of treatment and avoids unnecessary surgical procedures.

SIMPLE BREAST CYST WITH AN ATYPICAL OUTCOME

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Introduction: Squamous cell carcinoma is a malignant neoplasm of epidermal keratinocytes, which rarely affects the breast, representing 0.1% to 2% of all types of breast cancer, and belonging to the heterogeneous group of metaplastic breast carcinomas. Clinically, it is associated with large tumors, tending toward cystic degeneration, with skin invasion and ulceration, and no specific radiological characteristics. It is also associated with a proliferative nature (Ki67) and triple-negative tumors. The prognosis is bleak, with a mean 5-year survival of 50% to 63%. **Case report:** A female patient, 37 years old, receiving palliative chemotherapy for stage IV endocervical adenocarcinoma (pT3 pN1 M1 – pleura) complained of a tumor in her left breast, with growth in the prior month. Physical examination revealed a palpable, mobile tumor in the central region of the left breast, measuring 11x9.5 cm, and with soft consistency. Mammography identified a regular, well-defined nodule in the left breast (BI-RADS 0). Breast ultrasound (BUS) indicated a simple cyst, with thin and regular walls, without a solid parietal component, measuring 7.6x5.2x4.3 cm. She underwent a BUS-guided relief biopsy of the cystic lesion with total removal of the lesion. Twenty days later, local recurrence occurred, and the lesion was drained again. Culture and cytology were negative for malignancy. She continued receiving chemotherapy. Eight months after the onset of symptoms, at the end of chemotherapy, and with no palpable lesion in the left breast, BUS revealed a simple 2.6 cm cyst, with no sign of flow on the Doppler study, and the patient was submitted to excision of cystic lesion guided by radio-guided occult lesion localization (ROLL). Anatomopathological results indicated triple-negative metaplastic carcinoma, measuring 2.7 cm, with squamous differentiation and free surgical margins. Sentinel lymph node biopsy in the left axilla showed two lymph nodes free of neoplastic involvement. Adjuvant treatment consisted of FAC chemotherapy and hypofractionated radiotherapy. Currently, at 18 months of follow-up, she has no evidence of recurrence. **Conclusion:** Simple breast cysts are benign lesions, with active surveillance, except in the case of recurrence, residual mass after relief biopsy, or presence of bloody fluid in the biopsy material. This report describes a rare case of metaplastic carcinoma, which must be remembered as a differential diagnosis in recurrent breast cyst.

INFLUENCE OF MAMMOGRAPHY SCREENING IN THE TREATMENT OF WOMEN DIAGNOSED WITH BREAST CANCER

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Introduction: Apart from non-melanoma skin tumors, breast cancer is the most prevalent neoplasm among women in Brazil and worldwide. Breast cancer is a very heterogeneous disease, a fact attributed to the plasticity of its cells. Therefore, the stratification of tumors is critical to achieving better clinical outcomes. Breast cancer screening often allows diagnosing the disease in its earlier stages, manifested as smaller tumors, and still without lymph node involvement. The multiple prognostic factors that must be taken into account when considering the eligibility for treatment, such as age, reproductive status, type of cancer, and severity of the disease, make it impossible to establish clear approach guidelines for the disease, given the many different clinical situations. **Objectives:** To evaluate the influence of mammography screening in the treatment of women with a previous diagnosis of breast cancer. **Methodology:** This is an observational, descriptive, cross-sectional study conducted with primary and secondary data and a quantitative approach. The research was carried out in a high-complexity hospital in the far-south of Santa Catarina, Southern Brazil, and assessed patients with a previous diagnosis of breast cancer, from 2012 to 2017, who were on oncological outpatient follow-up. **Results:** Among the 99 patients analyzed, 58.6% undergo the examination annually, and 49.5% were diagnosed less than 12 months after the last mammography. Stage I diseases were more frequent, corroborating the finding that 74.7% of patients were submitted to conservative surgeries and 68.7% to sentinel lymph node biopsy, instead of more extensive procedures. With respect to the treatment of choice, patients with annual or biennial mammography frequency had surgical and chemotherapeutic outcomes similar to those of women who had no set frequency or who had never had a screening, that is, 72.4% of patients with annual frequency and 100% of patients with biennial frequency were submitted to conservative surgery, as occurred with 85% of patients with no set frequency and 66% of those who had never had the test. **Conclusion:** Patients who had annual mammographies and those diagnosed less than 12 months after the last mammography presented smaller tumors at diagnosis, but these characteristics did not influence the type of treatment chosen.

MAMMOGRAPHIC ABNORMALITIES AFTER CONSERVATIVE BREAST SURGERY WITH IMMEDIATE LIPOFILLING: CASE CONTROL STUDY

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Introduction: Conservative breast surgery with immediate autologous fat grafting reconstruction (lipofilling) is emerging as a new technique for breast reconstruction. Concerns have been raised about mammographic abnormalities caused by immediate lipofilling. Lipofilling can lead to mammographic abnormalities, with diffuse microcalcifications as the most frequent, followed by oil cysts. The incidence of radiological abnormalities resulting from fat grafting varies significantly in the literature, ranging from 0 to 86%. However, until now, no study has addressed the mammographic abnormalities found after conservative breast surgery with immediate lipofilling. **Methods:** This case-control study involved patients submitted to conservative breast surgery with or without immediate lipofilling in our facility between 2010 and 2013. Pathological and clinical characteristics of both groups were compared. The patients included underwent breast imaging tests with digital mammography every six months for two years. In each period, image changes were compared between the two groups. **Results:** Patients submitted to conservative breast surgery with immediate lipofilling were compared to those without immediate lipofilling. The mean volume grafted was 125±39 cc. Patients who underwent immediate lipofilling were younger than control patients (52.5 vs. 58.9 years, p=0.001). Other pathological and clinical characteristics were not statistically different between the two groups. Mammographic findings revealed no significant differences in the frequency of nodules (0 vs. 8, p=0.2) and calcifications (30 vs. 92, p=0.2) between patients with and without lipofilling. However, patients submitted to immediate lipofilling presented a higher frequency of oil cysts (6 vs. 5, p=0.01) and fat necrosis (3 vs. 1, p=0.03) after 24 months of radiotherapy. No patient was submitted to biopsy during the follow-up. **Conclusions:** This was the first study to show that lipofilling concomitantly with conservative breast surgery does not seem to induce significant radiological changes. These findings indicate that, from a radiological point of view, immediate lipofilling is safe and can be a new tool in breast oncoplasty.

ANALYSIS OF BREAST NODULE VASCULARITY AS A PREDICTIVE FACTOR FOR MALIGNANCY

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Introduction: Ultrasound is considered the main complementary diagnostic method to mammography in screening malignant breast nodules. The fifth edition of the BI-RADS® classification suggests analyzing nodule vascularity and the resistance index (RI) during the ultrasound. However, they are still not considered a decisive factor for the final classification. **Objectives:** To evaluate if the vascularity of breast nodules is a predictive factor for malignancy, and identify the RI value of the vessel most associated with malignant results. **Methodology:** This retrospective cross-sectional study assessed 750 ultrasound-guided breast biopsies performed at the Mastology Outpatient Clinic of the Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto da Universidade de São Paulo (HCFMRP-USP) from August 2015 to May 2017. The variables analyzed included examination date, ultrasound BI-RADS® category, internal nodule vascularity, RI value, and biopsy result. Exams from patients with no breast nodule were excluded. The statistical analysis was performed using Pearson's X^2 test. **Results:** The presence of vessels inside the nodule was highly associated with malignancy (OR=7.2, p<0.0001) and also with BI-RADS® categories of greater risk (p<0.0001). The median RI was 0.7 (interquartile range – IQR=0.23) in benign nodules with vessel and 0.86 (IQR=0.23) in malignant ones, with statistical significance (p<0.0001). The RI cut-off point to predict malignancy was 0.71 with 83.8% accuracy, 91.9% sensitivity, and 57% specificity (according to the Receiver Operating Characteristic – ROC – curve). Nodules initially classified as 4A but with internal vascularity and high resistance (RI>0.71) proved to be malignant in the biopsy in 35.7% of cases, that is, much higher than expected for the category (2% to 10%). Similarly, 72% of nodules initially classified as 4B but with internal vascularity and high resistance were malignant. On the other hand, 18.4% of nodules classified as 4C but without internal vascularity had malignancy confirmed by biopsy, far below the expected for the category (50% to 95%). **Conclusion:** The presence of internal vascularity and the RI were important factors for differentiating benign nodules from malignant ones on ultrasound, and in images classified as BI-RADS® 4, this information can be essential when dividing these nodules into subcategories (4A, 4B, and 4C).

IMPACT OF POSITIONING TRAINING ON THE QUALITY OF MAMMOGRAPHY

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Introduction: Mammography (MMG) reduces breast cancer mortality. Positioning is a critical factor for the quality of the test. **Objective:** To evaluate a positioning training program (PTP) to improve MMG quality. **Methods:** This is a case-control study of an MMG PTP. This study was performed in a private service specialized in breast diagnosis. We evaluated 200 projections from 50 MMGs carried out by two experienced technicians (6 years and 17 years of practice) – 25 screenings each. Performance criteria were evaluated in the mediolateral oblique (MLO) and craniocaudal (CC) views. In CC, we considered adequate positioning a good projection of outer quadrants (OQ), visualization of the pectoralis major (PM), centered nipples (CN), good projection of inner quadrants (IQ), no folds or creases, nipples in profile, and symmetrical breasts (SB). The low positioning of the Bucky was considered an error criterion. In the MLO evaluation, the criteria for an adequate positioning were the visualization of inframammary angles (IMA), nipples in profile and at the PM level, SB, no folds or creases, and symmetrical PM. Hanging breasts and visualization of the pectoralis minor (Pm) were considered positioning failures. An 11-hour theoretical and practical training was provided: 7 hours of practice and 4 hours of theory; new tests were performed, and the quality criteria were evaluated. **Results:** Positioning errors significantly decreased after the PTP. CC errors dropped from 39% to 11%. MLO errors decreased from 36% to 13%. After the PTP, the CC criteria evaluated improved: good projections of OQ – from 50% to 94%; visualization of the PM – from 21% to 62%; CN – from 49% to 79%; good projections of IQ – from 45% to 100%; lack of folds or creases – from 74% to 88%; nipples in profile – from 91% to 95%; SB – from 86% to 98%. The low positioning of the Bucky dropped from 19% to 0%. The MLO criteria evaluated also improved after the PTP: visualization of IMA – from 45% to 82%; nipples in profile – from 93% to 95%; nipples at the PM level – from 24% to 84%; lack of folds or creases – from 39% to 70%; SB – from 90% to 100%; symmetrical PM – from 56% to 82%; symmetrical nipples – from 72% to 86%; visualization of the Pm – from 13% to 7%. **Conclusions:** The MMG PTP improved the quality of the test, the gold standard in the early detection of breast cancer. PTP acts in a vulnerable part – the human. The results indicate that a simple and low-cost intervention of low technological complexity can significantly affect the quality of MMGs and screening programs in our country.

STUDY OF MAMMOGRAPHY REPORTS MADE BETWEEN 2015 AND 2019

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Introduction: Screening and early diagnosis are crucial strategies for the detection of breast cancer. In Brazil, the Ministry of Health recommends annual clinical screening in women over 40 years of age, with the addition of biennial mammography for those aged between 50 and 69 years. However, high-risk patients should have mammography annually after the age of 35 years. **Objectives:** To study the reasons for mammography screening in the age group 50 to 69 years. **Method:** This is an ecological study of the number of patients per mammography report according to age group, from 2015 to 2019. Data from the Cancer Information System (*Sistema de Informação do Câncer* – SISCAN) were obtained from the Technology Department of the public health system (*Departamento de Informática do Sistema Único de Saúde* – DATASUS). **Results:** When comparing data from the Breast Cancer Information System (*Sistema de Informação do Câncer de Mama* – SISMAMA) from 2015 to 2019, we found 8,569,457 mammographies, of which 5,216,473 were performed in women aged 50 years to 69 years, which corresponds to 60.87% of the procedures. In addition, 4.90% of these women were high-risk individuals, and 1.24% had been treated for breast cancer. Mammography reports showed that 12.01% of the results were inconclusive, 38.28% were normal, 46.12% had a benign radiological finding, 2.58% had a probably benign finding, 0.78% had a suspicious finding, 0.14% had a highly suspicious finding, and 0.04% had malignant confirmation. The proportion of BI-RADS categories 4, 5, and 6 totaled 83,852 screenings, the equivalent to 0.97% of reports. In addition, 59.49% (49,891) of women who presented mammographic findings with malignant characteristics belonged to the age group 50–69 years. **Conclusion:** This study concluded that the strategy of biennial breast cancer screening shows scientific evidence of mortality reduction, given that 59.49% of the reports with malignant characteristics corresponded to the age group 50 to 69 years. However, the data presented did not allow calculating the number of women outside this age group who do not receive care and develop breast cancer.

IS IT NECESSARY TO REMOVE INTRAPAPILLARY DUCTS IN THERAPEUTIC MAMMARY ADENECTOMIES FOR BREAST CANCER?

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Introduction: The nipple-areola complex (NAC) has glandular tissue in intrapapillary ducts (IPDs). When the NAC is preserved during mammary adenectomies (MA) for the treatment of breast cancer (BC), this glandular tissue, which is a potential focus of tumor residues, remains. **Objective:** To estimate the frequency of neoplastic development in IPDs among BC patients treated with MA. **Method:** After the MA and with evidence of free retroareolar margin through intraoperative examination, the nipple was inverted, and its central portion, where mammary ducts are located, removed. A pointed-tip scalpel was used, preserving a tissue rim of 1.0 to 2.0 mm. The analysis involved 219 cases submitted to this type of surgery in the Clínica Professor Alfredo Barros. In all patients, the distance tumor-NAC was ≥2.0 cm, according to magnetic resonance imaging (MRI). The intrapapillary tissue removed was sent for microscopic examination of sections embedded in paraffin. **Results:** We found 4 cases of ductal carcinoma *in situ* (none infiltrating) in IPDs (1.19%). Considering only the 217 cases with free retroareolar margin in the definitive examination, the number of patients with ductal carcinoma *in situ* in IPDs decreased to 2 (0.9%). **Conclusion:** IPDs are rarely involved in selected cases of MA (distance tumor-NAC≥2.0 cm on MRI and free retroareolar margin). Ideally, they should be removed, especially when the intent is avoiding radiotherapy.

MALIGNANT ADENOMYOEPITHELIOMA OF THE BREAST: CASE REPORT AND LITERATURE REVIEW

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Introduction: Adenomyoepithelioma of the breast is a rare, malignant, biphasic tumor of low grade, usually found in older women. Cases of metastasis are unusual, and when they occur, the most common sites are the lungs, brain, and thyroid. **Clinical case:** We discussed the case of a 49-year-old female patient with mammography and breast ultrasound showing a solid lesion, with ill-defined margins in the left breast. Excisional biopsy was performed, and the histological analysis confirmed the diagnosis of malignant adenomyoepithelioma with focally involved surgical margins. The treatment chosen was mastectomy with immediate reconstruction. **Conclusion:** The course and prognosis of the disease are unclear. Local recurrence is common; however, complete excision with safety margins represent the most effective form of treatment.

GESTATIONAL GIGANTOMASTIA

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Introduction: Gigantomastia is a disease of unknown etiology, which can occur in two different situations: gestational and non-gestational phases. The gestational type is a rare complication that affects 1:28,000 to 1:100,000 pregnancies and is usually bilateral. It consists of a diffuse, massive breast increase during pregnancy. In a normal pregnancy, the breasts double in size without sequelae; however, in this disease, the breast tissue may experience a 10 to 20-fold increase. The treatment varies from drug therapy to plastic surgery (mammaplasty) and radical surgery (mastectomy). **Objectives:** To report a case of gestational gigantomastia, its treatment approach, and outcome. **Methods:** Data from this study were obtained from a multidisciplinary clinical experience, image records, and literature search. **Case Report:** An 18-year-old patient, admitted to the mastology department of Hospital Guilherme Álvaro, in Santos, Southeastern Brazil, was diagnosed with gigantomastia in her 23rd week of pregnancy. The exacerbated breast growth during the gestational period caused pain and functional impairment to the patient. Bilateral mastectomy was performed at 27 weeks of pregnancy due to the worsening of her pulmonary condition, leading to the risk of maternal and fetal death. Macroscopic anatomopathological examination revealed breasts with a total weight of 27 kg, lobular hyperplasia, pronounced stromal hyperplasia, and necrosis of the breast parenchyma. She stayed in the intensive care unit during the postoperative period with good progression. The patient had a normal delivery at 38 weeks of gestation with a live fetus. **Discussion:** The ideal management for gestational gigantomastia is not clear. The treatment includes surgeries (reduction mammaplasty and total mastectomy with or without reconstruction), medications, or a combination of both. In the current case, the treatment chosen was mastectomy during pregnancy due to respiratory distress and the risk of sepsis by ischemic tissue necrosis. During the surgical procedure, there was a risk of hemodynamic instability, given the large volume of breast removed, representing 40% of the total weight of the patient. **Conclusion:** Gestational gigantomastia is an exceptionally rare condition, and the literature has few reports on the subject. The therapeutic management depends on factors intrinsic to the patient, so each case requires individualization. The therapeutic decision aims at the best prognosis, taking into account possible complications and a reduction in maternal and fetal morbidity.

PREDICTIVE POWER OF THE INTRAOPERATIVE EVALUATION OF RETROAREOLAR MARGIN IN MAMMARY ADENECTOMIES FOR THE TREATMENT OF EARLY-STAGE BREAST CANCER

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Introduction: Mammary adenectomy (MA) has been increasingly adopted to treat early-stage breast cancer (BC) for its cosmetic benefits and oncologic safety. In order to ensure the local control of the disease, the amount of remaining glandular tissue should be the least possible, and surgical margins must be free. **Objective:** To evaluate the predictive power of the intraoperative evaluation of retroareolar margin (IERM) compared to the gold-standard represented by the definitive analysis of sections embedded in paraffin. **Method:** This is a retrospective cohort study conducted with patients from the Clínica Professor Alfredo Barros, based on 224 individuals submitted to surgery with the MA technique (178 infiltrating carcinomas and 46 ductal carcinomas *in situ*). In all patients, the distance tumor-nipple-areola complex (NAC) was ≥2.0 cm, according to magnetic resonance imaging (MRI). A 0.5 cm thick flap was used in the region below the NAC. IERM was performed through cytopathological and histopathological examinations. IERM findings were compared to those of the definitive paraffin examination to calculate the parameters of predictive power. **Results:** In 5 cases (2.2%), IERM was positive, and NAC was immediately removed. The parameters of IERM predictive power can be seen below: Sensitivity 100%, Specificity 100%, Positive predictive value 100%, Positive negative value 97,3%, Accuracy 98,2%. **Conclusion:** IERM is highly accurate, has full specificity, and the NAC can be managed intraoperatively according to its result.

IDIOPATHIC GRANULOMATOUS MASTITIS IN A PREGNANT WOMAN

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Introduction: Idiopathic granulomatous mastitis (IGM) is a rare inflammatory breast disease of unknown etiology. It was described in 1972 by Kessler and Wolloch, who reported cases of granulomatous lobulitis with no established relationship with trauma, foreign body, or specific infection. This study aimed at reporting a case of IGM in a pregnant patient. **Clinical case:** A 36-year-old pregnant woman, with a gestational age of 27 weeks, was admitted with a complaint of right breast pain for 7 days. She denied comorbidities. Clinical examination showed a dense area in the junction of the right inner quadrants, associated with mild hyperemia without signs of fluctuation. Lymphadenopathy was not identified. Ultrasound revealed a non-homogeneous fluid of 4.9x1.7x5.2 cm in the right upper inner quadrant, with a consequent surgical approach and collection of fragments for analysis. Cultures with antibiogram and for fungi and the venereal disease research laboratory (VDRL) tested negative. Histopathological examination showed a chronic inflammatory process with abundant granulation tissue and isolated giant cells, suggesting granulomatous mastitis. Corticosteroid therapy was indicated after the birth, with prednisone 40 mg/day for 3 months, with complete resolution of the symptoms. **Discussion:** Usually, IGM affects women aged 17 to 42 years. Recent history of pregnancy is common, with identified cases ranging from 2 months to 15 years after the last delivery, rarely occurring during gestation. It manifests as a breast mass of 0.5 to 9 cm in diameter, often unilateral and on the left side. Signs of inflammation and local lymphadenopathy can also be identified. Mammography is not ideal for detecting IGM, with findings of low specificity, and false negatives are frequent in dense breasts. The most frequent ultrasound findings are irregular hypoechoic mass and tubular hypoechoic lesion. IGM can be confirmed by detecting a histological pattern of chronic granulomatous lobulitis, non-caseating granuloma with infiltration of histiocytes, few polymorphonuclear cells, and multinucleated giant cells. Ruling out syphilis, fungi, and breast tuberculosis is important. The recommended treatment is excisional biopsy, preferably a wide excision. However, surgical management has a negative cosmetic impact and is associated with up to 50% of cases of persistence and recurrence of the disease, in addition to complications such as abscesses, fistulas, and ulceration. Corticosteroids are an effective option for controlling the disease, but active surveillance can also be chosen. Considering the above, we underline the importance of early diagnosis with appropriate scientific and technical foundations to provide a better prognosis for patients.

DETECTION/DIAGNOSIS – OTHER

DETECTION OF METASTATIC BREAST CARCINOMA CELLS IN A BONE MARROW SAMPLE BY FLOW CYTOMETRY: CASE REPORT

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Introduction: Breast cancer is a global public health issue due to its high mortality. Despite the multidisciplinary approaches and strategies to reduce mortality, many women are diagnosed in advanced stages with metastases, compromising the chances of cure. **Objective:** To report the case of a 28-year-old woman, G3, with a history of postpartum depression, on treatment for post-breastfeeding mastitis, with lumbar pain radiating to the chest and lower limbs for 5 months, progressing to epistaxis, hair loss, lymphadenopathy, dyspnea, lower limb petechiae, weight loss of 20 kg, and bicytopenia in the prior 2 months. She was admitted to the emergency department with fever and night sweats and was diagnosed with metastatic breast cancer based on bone marrow (BM) analysis by flow cytometry (FC). **Method:** BM biopsy (BMB) was performed and evaluated by FC immunophenotyping using the antibodies anti-CD3, anti-CD4, anti-CD8, anti-CD19, anti-CD56, anti-CD34, anti-CD45, and anti-HER2. The streptavidin-biotin-peroxidase method was adopted for the phenotypic evaluation by immunohistochemistry (IHC). **Results:** Clinical findings and her history favored the hypothesis of lymphoproliferative neoplasm. BM samples were collected for immunophenotyping and BMB for histological study and IHC. The initial aspirate analysis by FC identified 0.90% of non-hematological cells, with a positive expression for the antibody anti-HER2, suggesting epithelial neoplasm, which directed the investigation toward solid tumor with unknown primary site. The presence of this cellular component guided the IHC panel of BMB. Cells positive for CKPOOL, CK7, E-cadherin, estrogen receptor, progesterone receptor, HER2, GCDFP15, and mammaglobin were identified, indicating immunophenotype of metastatic breast disease in the BM. Later, a nodule was clinically detected in the right breast, showing a pattern consistent with that found in the BM sample, confirming the metastatic breast carcinoma. **Conclusions:** FC has proven to be a methodology of great clinical importance. Its routine laboratory application in the diagnosis of solid tumors could become a useful tool, providing agility and increasing diagnostic coverage.

CASE REPORT: ASSOCIATION BETWEEN LYMPH NODE TUBERCULOSIS AND BREAST CANCER

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Introduction: Lymph node tuberculosis is the most common extra-lung presentation of tuberculosis, responsible for 43% of peripheral lymphadenopathies in developing countries. The coexistence between lymph node tuberculosis and breast cancer is rare, ranging from 0.1% to 4.9%.**Objective:** To present a case of axillary lymph node tuberculosis due to its rare association with breast cancer. **Methods:** We have investigated the case of a 48-year-old woman from Congonhas, Minas Gerais, Southeastern Brazil, who presented a palpable nodule in the junction of the right upper quadrants with two years of progression, category 4B of the Breast Imaging Reporting and Data System (BI-RADS) on mammography and ultrasound, with core needle biopsy compatible with benignancy. No axillary lymphadenopathy was identified. **Case report:** The patient underwent resection of the right breast nodule with safety margins due to disagreement between biopsy and imaging tests. Anatomopathological examination was consistent with luminal B invasive ductal carcinoma, measuring 1.6 cm. The patient was submitted to sentinel lymph node biopsy using patent blue in the right axilla. Anatomopathological analysis revealed tuberculous lymphadenitis. Chest computed tomography showed pulmonary nodules. The patient received adjuvant radiotherapy and tamoxifen, as well as antituberculous antibiotics, with regression of pulmonary nodules. The final staging was pT1cN0M0- IA. **Discussion:** Most cases of coexistence between these diseases involve tuberculous lymphadenitis with or without neoplastic lymph node involvement. Some reports indicate that the involvement by tuberculosis does not prevent neoplastic proliferation. Before starting chemotherapy, tuberculosis must be treated to avoid the immunosuppressive effect that can cause a spread of tuberculosis. **Conclusion:** Despite the rare coexistence of these diseases, we should not rule out this possibility, especially in endemic tuberculosis areas. Also, an accurate diagnosis prevents incorrect staging and can spare the patient from a more aggressive treatment.

METASTASIS OF NEUROENDOCRINE TUMOR MIMICKING PRIMARY BREAST CANCER: CASE REPORT

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Introduction: Neuroendocrine tumor has an annual incidence of 2–5 cases/100,000 inhabitants, most of them asymptomatic, and may clinically present as carcinoid syndrome: facial flushing, diarrhea, and bronchospasm. It has a great tendency to metastasize to regional lymph nodes and liver, being unusual in the breast. **Clinical case:** A black 47-year-old woman without comorbidities presented a nodule with progressive growth for 2 years in the right upper inner quadrant (RUIQ), biopsied and diagnosed as breast cancer, without a specific subtype or immunohistochemistry (IHC). Physical examination revealed a 3 cm nodule, hard and fixed axillary lymph node, and enlarged yet fibroelastic and mobile anterior cervical lymph node. Ultrasound (US) identified two irregular nodules in the RUIQ and the junction of the right outer quadrants (JROQ) measuring 2.5 cm and 0.7 cm, respectively, and level I axillary lymph node with cortical thickening. The JROQ nodule and the axillary lymph node were biopsied. The cervical lymph node did not show loss of hilum or suspicious abnormalities on US and was not biopsied. Anatomopathological results of the nodule were compatible with invasive carcinoma without a specific subtype, with estrogen receptor weakly positive (10%), Ki-67 7%, and negative for other markers. The axillary lymph node was negative for metastasis. During staging, an abdominal computed tomography identified a 1.9 cm lesion of likely neuroendocrine origin in the ileocecal valve with metastasis to the liver, regional lymph nodes, and breast. Complementary IHC of the biopsy slide was later performed with chromogranin, synaptophysin, and CDX-2, and the diagnosis reached was breast metastasis of neuroendocrine tumor. An external review of biopsy slides of the RUIQ nodule was requested, and the patient was referred to the oncology department to continue treatment. **Conclusion:** Metastasis of gastrointestinal tumors to the breast corresponds to less than 0.5% of cancers, with 15 reports in the literature, of which only 7 were asymptomatic, and their clinical presentation started with breast lesion, as in the case described herein. Given its rarity, as well as the clinical and radiological difficulties in differentiating these lesions, special attention must be paid to differential diagnoses, especially in cases of discrepancies between the tumor histology and IHC or lack of correlation between image and clinical condition.

ANALYSIS OF BREAST LESIONS IN PREGNANT WOMEN AT THE HOSPITAL DAS CLÍNICAS DE RIBEIRÃO PRETO

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Introduction: Few publications have analyzed the diagnostic profile of nodules detected during pregnancy, but most lesions diagnosed in this stage are benign. Nevertheless, breast cancer is the most common malignant neoplasm in these patients, making the differential diagnosis even more challenging. **Objectives:** To analyze the prevalence of palpable breast lesions in pregnant women treated at the mastology department of the Hospital das Clínicas da Faculdade de Medicina de Ribeirão Preto (HCFMUSP-RP) from 1984 to 2011. **Methodology:** This is a retrospective cross-sectional study based on the review of medical records of patients treated at the mastology department of HCFMUSP-RP when the service was a regional reference center for breast nodule investigation. We included all pregnant women referred for palpable nodules and submitted to biopsy or excision of the lesion (51 cases). Results were compared with two control groups. The 102 controls were matched by age for each case with an allowable variation of ±1 year. Statistical analysis was performed using Pearson›s χ^2 test. **Results:** The mean age of the patients was 27.7 years in the group of pregnant women and 26.8 years in the control group. The most prevalent lesion in the group of pregnant women was fibroadenoma (43%), followed by malignant breast neoplasms (31%). Malignant lesions were diagnosed in 35.2% of pregnant women with a mean age of 31.2 years, and invasive ductal carcinoma was the most frequent. In the control group, the most common lesions were fibroadenoma and benign phyllodes, corresponding to 65.7% of cases. Twelve malignant lesions were diagnosed in the control group: 11 ductal carcinomas (10.7% – mean age of 36.7 years) and 1 liposarcoma. Comparing the groups regarding the histological diagnosis shows that benign nodular lesions represent two-thirds of control cases and 43% of pregnant women. The frequency of breast cancer in the group of pregnant women was significantly higher than in the control group (p<0.005). **Conclusion:** Specific pregnancy and lactation lesions are uncommon. Benign nodules are the most diagnosed at this stage, but the frequency of malignancy among pregnant women is higher than in the non-pregnant group of comparable age, and their mean age is lower. Therefore, nodules detected during pregnancy should be promptly investigated with imaging tests and biopsy.

SQUAMOUS CELL CARCINOMA OF THE BREAST: CASE REPORT

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Introduction: Primary squamous cell carcinoma of the breast (SCCB) is a rare malignant neoplasm, confirmed when at least 90% of the cells are of the squamous type. It represents about 1% of all cases of breast carcinomas. The literature has few reports on the subject, showing that SCCB has no specific radiological features. **Objective:** To report a case of SCCB diagnosed at the Instituto do Câncer Doutor Arnaldo Vieira de Carvalho. **Method:** We conducted a review of medical records, photographic records, and a literature review. **Result:** An 82-year-old woman had a small breast lesion in 2016, but for fear, she hid it until the end of 2018. In the beginning, the lesion was treated with topical corticosteroids and monitored at a community health clinic. After worsening, she was referred to a specialized service. Upon physical examination, the lesion was firm, exophytic, friable, and non-nodular, with fibroelastic axillary lymph nodes of up to 1.5 cm. The mammography from October 2018 was classified as BI-RADS® 2 and the breast ultrasound as BI-RADS® 3, showing only skin lesion. Incisional biopsy revealed SCCB with immunohistochemistry positive for cytokeratin-14 and protein p63 and negative for hormone receptors (HR) and HER2 expression. She underwent central quadrantectomy with axillary lymph node dissection in April 2019, confirming SCCB and without lymph node involvement (0/14). After 5 months, the patient showed lesions suggestive of herpes zoster, confirmed by serology. Without improvement with acyclovir, a new biopsy was performed, which confirmed local recurrence. In December, she started radiotherapy, but the lesion progressed to necrosis, papules, and extended to the dorsum, accompanied by intense pain. Chemotherapy with cisplatin 30 mg/m² weekly was proposed, with partial response. **Conclusion:** SCCB at diagnosis has >4 cm, and 50% of them have associated cysts. Usually, it has a high grade and is negative for HR and HER2 expression. Mammographic images do not have specific features, explaining the large lesions during screening. The literature review revealed that 70% of SCCB patients do not have lymph node involvement, but due to its unpredictable spread, lymph node dissection might be conducted for staging. It is considered an aggressive disease with an uncertain prognosis, and the data available is not enough to provide options to prevent recurrence. SCCB is rare, has a poor prognosis, and surgery is the most accepted initial treatment. In the case of recurrence, the treatment of choice is radiotherapy associated with cisplatin-based chemotherapy and anti-PD-L1 immunotherapy (cemiplimab), which was recently approved by the Food and Drug Administration (FDA).

VALIDATION OF IMMUNOPHENOTYPING BY FLOW CYTOMETRY IN THE INVESTIGATION OF DIAGNOSTIC AND PROGNOSTIC MARKERS FOR BREAST CANCER

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Introduction: Given its high prevalence, breast cancer has a great financial impact on health systems. Currently, the diagnosis is made by morphological analysis and immunohistochemistry (IHC). However, this methodology has some limitations. Therefore, new methods should be developed to assist those in use, based on the fast and safe detection of tumor cells. **Objective:** To validate immunophenotyping by flow cytometry (FC) in the investigation of diagnostic and prognostic markers for breast cancer and study lymphocyte subtypes infiltrating the tumor and their relationship with tumor development. **Method:** A total of 52 samples of breast tumors were sectioned, macerated in phosphate-buffered saline, stained with antibodies against estradiol receptors (ER), progesterone receptors (PR), HER2, Ki67, CD3, CD4, CD8, and CD45, and analyzed by FC. All results were compared with IHC (standard method) as to sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV), except for Ki67, whose analysis involved a comparison of bias between the methods and correlation between lymphocyte subtypes and tumor characteristics. **Results:** The comparison between FC and IHC for each marker presented the ER analysis (sensitivity: 75%, specificity: 90%, PPV: 96.7%, NPV: 47.4%); PR analysis (sensitivity: 72%, specificity: 70%, PPV: 79.3%, NPV: 60.8%); HER2 analysis (sensitivity: 80%, specificity: 90.2%, PPV: 66.7%, NPV: 94.9%). The FC Ki67 analysis proved to be equivalent to that of IHC, with the advantage of not having observational bias. No correlations were identified between the profile of the population of intratumoral lymphocytes and the molecular subtype or the histological grade of the tumor. **Conclusion:** The results show the ability of FC in safely and promptly detecting breast cancer markers used in clinical practice. The use of FC, together with morphological analysis and IHC, might overcome the individual limitations of each methodology, efficiently providing reliable and rapid results, which would lead to faster diagnosis and more accurate prognosis, directly benefiting the patients.

ANALYSIS AND CORRELATION OF IMAGING FINDINGS WITH THE ANATOMOPATHOLOGICAL STUDY OF BI-RADS 4A LESIONS

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Introduction: The Breast Imaging Reporting and Data System (BI-RADS®) was developed to standardize reports based on imaging findings, classifying them into six categories. Its fourth edition proposed the subdivision of category 4 into three subcategories according to malignancy suspicion. Category 4A shows likelihood of malignancy between 2% and 10%, and diagnosis by biopsy is recommended. Frequent histological findings in the literature for 4A lesions include fibrocystic breast changes, fibroadenoma, columnar cell lesions with atypia, stromal sclerosis, inflammatory disorders, and proliferative epithelial lesions. **Objectives:** To show the most relevant radiological and histological findings for the BI-RADS® 4A subcategory, corroborating its likelihood ratio of malignancy. **Method:** This is a cross-sectional study based on the review of medical records of patients submitted to the anatomopathological study of BI-RADS 4A lesions in public and private health services from Curitiba, Paraná, Southern Brazil, between March and September 2019. The findings were subsequently correlated with histopathological results. **Results:** A total of 727 core needle breast biopsies were performed – 78.6% guided by ultrasound and 21.4% by stereotaxy. Approximately 35.8% of ultrasound-guided procedures (group X) and 55.4% of stereotaxic biopsies (group Y) were classified as BI-RADS 4A. Among the main imaging findings in group X, solid nodules, solid cystic lesions, and solid heterogeneous areas stood out. Group Y presented clusters of heterogeneous, punctate, amorphous microcalcifications, and findings that did not fit the BI-RADS classification. Benign changes predominated among the histopathological findings in both groups. The malignancy rate according to guidelines of the European classification for anatomopathological results of breast lesions[4] remained around 2% in group X and 8.7% in group Y. **Conclusion:** Based on the results obtained, we concluded that the malignancy rates of biopsies from patients classified as BI-RADS 4A were within the acceptable values established by the literature. However, they varied considerably according to the biopsy method chosen, presenting higher values in patients submitted to stereotaxy.

PROJECT OF AN APPLICATION TO FACILITATE ACCESS TO BREAST CANCER DIAGNOSIS IN CEARÁ

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Breast cancer (BC) is the malignant neoplasm most associated with mortality among women in Ceará. Its survival rate is directly related to early diagnosis. Traditionally, this diagnosis is made after the self-detection of a nodule by the patient. Mammography screening covers 43% of the target population. The diagnosis is almost exclusively made in advanced stages, leading to high mortality (3735 deaths from 2013 to 2018). Raising awareness of the population is crucial to increase mammography coverage. The development of an application to refer suspected cases to a specialized care unit may increase the early diagnosis of the disease and improve its prognosis. The project consists of developing an application that directs women to get mammographies, increasing the care coverage, informing them about risk factors, helping them find reference centers, collecting data, and generating reports and predictions.

EVALUATION OF ATYPICAL HYPERPLASIA AFTER PERCUTANEOUS VACUUM-ASSISTED BIOPSY OF SUSPICIOUS CALCIFICATIONS

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Introduction: Atypical ductal hyperplasia (ADH), atypical lobular hyperplasia (ALH), lobular carcinoma *in situ* (LCIS), and flat epithelial atypia (FEA) are part of a heterogeneous group of lesions with uncertain malignant potential and varying rates of malignancy after wide excision. They represent a clinical challenge, given the lack of well-defined approach recommendations. **Objective:** To determine the local rate of "upgrade" to malignancy (invasive carcinoma or *in situ*) after wide excision of ADH, ALH, LCIS (classic lobular neoplasia) diagnosed by percutaneous vacuum-assisted biopsy performed only in suspicious calcifications, as well as analyze radiological and histopathological parameters that can be associated with a higher risk of "upgrade". **Material and Methods:** This is a retrospective analysis of 117 patients diagnosed with ADH, LCIS, and FEA after percutaneous vacuum-assisted biopsy of suspicious calcifications, from 2015 to 2018. We evaluated radiological parameters – lesion size, morphology of the calcifications, diameter of the needle, and presence of residual calcifications – and histopathological parameters – extension of atypia (focal or multifocal) and association with other atypias. **Results:** Among the 106 patients included, 77 (73%) underwent surgery, with a rate of "upgrade" to malignancy of 19.5% (10 ductal carcinomas *in situ*, of which 30% had high grade) and 5 had invasive carcinomas (4 ductal and 1 tubular, all with low grade). In the subgroup analysis, the rate of "upgrade" was 31% for ADH, 14.7% for FEA, and 7.7% for LCIS. Needle diameter (9Gx11G) (p=0.48), presence of residual calcifications (less than 90% of the cluster removed) (p=0.73), and mean cluster extension (calculated based on the original mammography) (p=0.66) showed no statistically significant correlation with an increase in the rate of "upgrade". Amorphous calcifications predominated (60%), followed by fine pleomorphic ones, with rates of "upgrade" of 11% and 35%, respectively. Regarding histological parameters, we found no statistically significant difference between groups with focal (up to 2 foci) and multifocal atypia or association with other atypias. **Conclusion:** Our rate of "upgrade" to malignancy was similar to that of the published literature, and we found no statistically significant radiological or histological criteria for a greater risk of "upgrade".

PROFILE OF PATIENTS SUBMITTED FROM PRIMARY HEALTH CARE IN THE MUNICIPALITY OF RIO DE JANEIRO TO THE AMBULATORY OF BENIGAL PATHOLOGY OF MASTOLOGY OF THE HOSPITAL UNIVERSITÁRIO GAFFRÉE E GUINLE (HUGG) - A CROSS-SECTIONAL STUDY

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Introduction: In the Brazilian Unified Health System (*Sistema Único de Saúde* – SUS), since 2012, referrals to the municipal outpatient network are carried out through the National Regulation System (*Sistema Nacional de Regulação* – SISREG). The system works online and, daily, doctors in the family health strategy of Primary Care request consultations and tests that, after being approved, are scheduled by the units that provide the service. The objective of SISREG is to optimize resources and to improve the flow of calls. Calls are classified according to priority criteria containing an appointment period of 30 to 180 days. The Mastology outpatient clinic at HUGG offers SISREG 4 vacancies per week for consultation on benign breast pathology. **Objective**: To evaluate the profile of patients referred to the Mastology Service at HUGG and their role in the context of SUS. **Method**: The medical records of patients referred through SISREG to the Mastology outpatient clinic of HUGG were carried out from January to December 2019. **Results**: 97 patients were referred, but only 90 of them attended the consultation. 7% of the patients had no indication for specialized monitoring, 48% of the patients already had a previous biopsy, 15% had a biopsy, 30% had surgery indication, and 19% had a suspected or confirmed lesion for breast cancer. Of the patients with a family history record, 20% had an indication for genetic study for research of hereditary breast cancer. Of those with registered BMI, more than 60% were overweight or obese. The minority regularly drank alcoholic beverages (2%) or had a history of smoking (30%). A quarter of the patients did regular physical activity. The average time between the request date and the day of the consultation was 67 days, the majority of which was spent between the date of approval in the request unit until the appointment at HUGG. Priority time was respected 75% of the time. 40% of the vacancies offered were not filled. Conclusion: A good part of the population served is overweight, sedentary, and a significant portion has a positive family history for breast cancer. In addition, the offer in consultation for benign breast pathology seems excessive, and for this reason, in 2020, we decided to open vacancies for breast biopsy, aiming at better matching supply and demand, thus seeking the best assistance to the population of Rio de Janeiro.

ANALYSIS OF TWO GROUPS OF YOUNG PATIENTS WITH BREAST CANCER

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Introduction: Breast cancer is the main type of cancer and the main cause of death by cancer among women worldwide. For Brazil, the National Cancer Institute José Alencar Gomes da Silva (*Instituto Nacional de Câncer José Alencar Gomes da Silva* – INCA) estimated that breast cancer would be responsible for 29.5% of new cancer cases and 16.2% of cancer deaths in 2019. The incidence of breast cancer in young women has grown worldwide: in developing countries, 25% of breast cancer cases occur in women under 40 years of age. In young women, breast cancer has more aggressive characteristics and is diagnosed later. Mammography is the best screening method, however, it is only started at 40. **Objective:** To analyze the clinical, pathological, and treatment characteristics among patients with breast cancer diagnosed up to 40 years old and between 41 and 45 years old. **Methods:** Observational and cross-sectional study, which evaluated patients diagnosed with breast cancer until the age of 45 and who underwent surgical treatment at the *Hospital do Servidor Público Estadual* between October, 2013 and October, 2017. Data were collected from medical records and patients were divided into two groups: Group 01, up to 40 years old and Group 02, from 41 to 45 years old. Variables were collected regarding age at diagnosis, menarche, number of deliveries, body mass index (BMI), comorbidities, family history of breast cancer, initial clinical staging, type of biopsy, type of histological biopsy result, type of treatment, and surgical results. The variables were analyzed statistically. **Results:** Fifty patients aged between 29 and 45 years old were evaluated. There was no statistically significant difference in clinical characteristics. Group 02 presented more tumors with hormonal receptors, more cases of axillary emptying after compromised sentinel lymph node, and lower rates of radiotherapy. **Conclusion:** Young patients aged 41-45 years old present more tumors with hormonal receptors, greater involvement of microscopically locoregional lymph nodes, and less treatment with radiotherapy than young patients under 40 years of age.

EPIDEMIOLOGICAL PROFILE OF AGED WOMEN WITH BREAST CANCER IN A PRIVATE CLINIC IN CRICIÚMA/SC

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Objectives: Breast cancer is the most common cancer among women, gradually increasing its incidence in the aged population. This study aims to analyze the epidemiological characteristics of patients over 60 years of age with breast cancer in a private clinic in the city of Criciúma, Santa Catarina. **Methods:** This is a retrospective observational study, with collection of primary and secondary data and a quantitative approach. The sample was obtained through the analysis of 76 medical records and questionnaires, between 2014 and 2018. **Results:** The mean age of the patients was 70.39 years. The mean age of menarche and menopause was 13.23 and 49.48 years, respectively. Regarding the body mass index, 38.4% had some degree of obesity. Most elderly women (81.8%) were non-smokers. Evenly, 92.3% were non-alcoholics. Most cancers were detected by mammography (39.3%). Conservative surgery was predominant (74.2%). The association between radiotherapy and hormone therapy was the predominant adjuvant therapy (48.7%). Neoadjuvance was performed in 15 patients, 9 of whom underwent neoadjuvant chemotherapy (60.0%). The most used hormone therapy was anastrozole (88.9%). The most common side effects related to hormone therapy were isolated muscle pain (35.7%) and associated hot flushes (21.4%). There was a predominance of invasive ductal carcinoma (59.2%) and Luminal A subtype (43.6%). **Conclusion:** Aged patients usually present with smaller and less aggressive tumors, mostly submitted to less aggressive treatments.

BREAST CANCER IN WOMEN: CHARACTERIZATION OF CASES INCLUDED IN THE HOSPITAL CANCER RECORDS OF THE STATE OF SÃO PAULO AND FACTORS ASSOCIATED WITH ADVANCED STADIUMS

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Introduction: Breast cancer is a worldwide public health problem, being the most common malignancy in the female population. It is a potentially curable disease if diagnosed early. The advanced stage at the time of diagnosis is associated with increased morbidity and low survival of these women. **Objectives:** To describe the sociodemographic, clinical, and anatomopathological characteristics of breast cancer cases in women included in the São Paulo State hospital cancer database (*registros hospitalares de câncer de São Paulo* – RHC-SP), established in 2000 and maintained by the *Fundação Oncocentro de São Paulo* (FOSP) and to investigate the factors associated with the clinical stage at the time of diagnosis. **Material and methods:** The study design was a series of cases. The sample consisted of women with breast cancer diagnosed between 2000-2014 and included in the RHC-FOSP. The outcome variable was the clinical stage (stage 0-II *versus* III-IV). The explanatory variables were: age at diagnosis and education level. This study was approved by the Human Research Ethics Committee of the Botucatu Medical School, UNESP. **Results:** The study included 84,987 women with *in situ* and invasive breast cancer diagnosed between 2000-2014. The mean age of women at diagnosis was 56.7 years (95%CI 56.6–56.8 years). Sixty-five percent of the cases have complete elementary school or less and the most frequent histological type was ductal carcinoma (77.2%). During the study period, there was a small decrease in the proportion of tumors in more advanced stages, from 39.8% in 2000 to 32.6% in 2014. There was a statistically significant association between the variables age at diagnosis and level of education with the clustered clinical stage of women. Women of older age and those with a higher level of education had reduced odds ratios for tumors in more advanced stages at the time of diagnosis. **Conclusion:** These findings may contribute to the development of policies for the identification of breast tumors at an earlier stage.

BENIGN BREAST TUMORS: EPIDEMIOLOGICAL PROFILE AND THERAPEUTIC CONDUCT AT THE *ESCOLA PAULISTA DE MEDICINA*

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Introduction: Breasts represent an important site for the development of diseases. It is known that 80% of the palpable masses of the breast are of benign origin. Benign breast diseases range from inflammatory to neoplastic processes. **Objectives:** to evaluate the clinical and epidemiological characteristics of patients diagnosed with benign breast tumor at the Mastology outpatient clinic of the *Universidade Federal de São Paulo* (UNIFESP). **Methods:** 1,532 medical records, available on the electronic platform PEP-HUHSP through the ICD D24 (benign breast cancer) and N63 (unspecified breast nodule), of patients referred to the service between July 2008 and July 2017 were reviewed. After applying exclusion criteria, 403 medical records were submitted to data collection and tabulation in Excel, followed by statistical analysis using the IBM SPSS Statistics 23 software. The study in question was approved by the Research Ethics Committee of UNIFESP (CEP UNIFESP), in the Teaching and Research Coordination of *Hospital São Paulo – Hospital Universitário*/UNIFESP (CoEP of HSP-HU/UNIFESP) and exempted from the application of the Informed Consent by the same organs. **Results:** In the 9-year period, the following results were obtained: mean age was 39.3 years. Comorbidities: smoking (16.4%), SAH (16.8%) and dyslipidemia (6.3%). Family history of breast and/or ovarian cancer accounted for 16.6%. Mean age of menarche and menopause, respectively, were 12.7 and 42.5 years. Causes of referral: "alteration in image examination" (38.3%), "lump in the breast" (33.3%), "follow-up due to previous nodules" (16.5%). Anatomopathological report: fibroadenoma (41%), breast cysts (16%), phylloid tumors (3%), and papilloma (1%). Mean number of consultations per patient until discharge or abandonment of follow-up: three. Choice behavior: expectant (85.2%). **Conclusion:** The epidemiological profile of patients referred to the UNIFESP tertiary mastology service was mainly composed of women of childbearing age and nulliparous women, whose main comorbidities were smoking and SAH, in the great majority with no family history of breast cancer. Regarding the consultation, the main reason for referral is the findings on imaging exams, and, specially, patients would bring their breast USG along, which surpassed mammography by 34.1%. The choice for biopsy was restricted, present in approximately 1/3 of the cases, but pointed out that the most prevalent nodule is fibroadenoma, followed by phylloid and papilloma tumors. Nevertheless, there was a predilection for expectant conduct. On average, there were regular follow-ups for 1.5 years, followed by a significant dropout rate.

CLINICAL AND PATHOLOGICAL CHARACTERISTICS OF PATIENTS WITH OVEREXPRESSED HER 2 BREAST CANCER IN THE NATIONAL COHORT STUDY - AMAZONA III

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Introduction: HER2 overexpressed breast cancer (+) is observed at around 15-20%. The introduction of target therapies in this subtype changed the prognosis of these patients, improving mortality and reducing surgical morbidity when neoadjuvant therapy allows downstaging of breast and axillary surgery. A recent publication with 1,310 samples from Brazilian patients described 20% of HER-2 + tumors. There are few epidemiological studies evaluating patients in our population. The Amazona III study evaluated the epidemiology of breast cancer in a sample of the Brazilian population including 2,950 patients from 23 Brazilian hospitals, completed in 2018. **Objective:** To characterize the frequency of positive HER-2 breast cancer in patients in the Amazona III study and its clinical characteristics. **Method:** Prospective, multicenter cohort study. All female patients with invasive breast cancer over 18 years of age included in the Amazona III Project were considered eligible. Immunohistochemical determination was made according to the pathology laboratory of each center. **Results:** Of the 2,950 study participants, 643 (21%) were HER2 +, 71% from the Unified Health System (SUS) and 28.9% from the complementary system. Most had grade 2 (52.6%) or 3 (36.4%), were post-menopausal (53%), positive estrogen receptor (71.9%), and did not undergo neoadjuvant therapy (52%). As for the number of lymph nodes, 45% were positive lymph nodes, with cN1 (27%), cN2 (12%), and cN3 (5%). 49% had positive lymph nodes in SUS and 37% in the private system. The rate of conservative breast surgery was similar in both groups, being around 46%. **Conclusion:** The prevalence of HER-2 + in patients included in the Amazona Study III (current epidemiological study of breast cancer in Brazil) is compatible with data from the literature. The prevalence of positive lymph node at diagnosis is high, especially in SUS (49%), therefore the impact of access to therapies that increase the chance of increasing overall survival, decreasing invasive recurrence, and decreasing surgical morbidity must be evaluated.

822 CASES OF MALIGNANT BREAST NEOPLASIA FROM THE UBÁ BREAST INSTITUTE

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Objective: To verify the profile of the presentation and the surgical treatment performed in a service in the state of Minas Gerais, Brazil. **Methods**: Descriptive prospective case series study, carried out based on cases handled by the same team from March 2001 to December 2019, archiving pre-defined information and analyzing data using the R and SPSS PC software. **Results**: 822 cases were diagnosed and treated at the service, with a mean age of 56.6 years + 14.1 (ranging from 24 to 96 years), with patients from 44 different cities, predominantly Ubá, Minas Gerais (31%). Infiltrating Ductal Carcinoma was the histopathological type of most cases (65%) with a mean tumor size of 21.8 mm + 20.8. The predominant immunohistochemical type was Luminal B HER negative (33%). Initial staging predominated, with 37% of patients in clinical stage IA. The surgical approach was conservative in most cases (73%), with sentinel lymph node surgery (183 cases) and oncoplasty surgery (278 cases). In the follow-up after treatment, we have 17% of the discharge after 10-year free survival, 15% of death, and 7% of metastatic disease in chemotherapy. **Conclusion**: There was a predominance of patients with initial tumors, which enabled a high rate of treatment with breast conservation and with a future expectation of reducing mortality from the disease.

SURVIVAL AND PROGNOSTIC FACTORS OF BREAST CANCER IN WOMEN IN THE STATE OF SÃO PAULO

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Introduction: Breast cancer is the first most common malignancy in the female population worldwide. Monitoring the survival of women with breast cancer has been a strategy often adopted at the international level as a measure to assess public policy progress for disease control. **Objectives:** To estimate the probability of five-year survival and to investigate the prognostic factors of women with breast cancer included in the São Paulo State Cancer Hospital Records Base (RHC-SP), established in 2000 and maintained by the Oncocentro Foundation of São Paulo (*Fundação Oncocentro de São Paulo* – FOSP). **Material and methods:** This is a historical cohort. The sample consisted of women with breast cancer diagnosed between 2002 and 2012 and included in the RHC-FOSP. The event studied was specific mortality from breast cancer. Live cases at the end of follow-up (December 31st, 2017), loss of follow-up and those who died from causes other than breast cancer were considered censures on the date of the last contact or date of death. Survival analysis was performed using the Kaplan-Meyer method and the survival curves were compared using the log-rank test. Hazard ratios (HR) and respective 95% confidence intervals (95%CI) were also estimated using the Cox's proportional hazards model. This study was approved by the Human Research Ethics Committee of the School of Medicine of Botucatu, UNESP. **Results:** In the period between 2002-2012, 53,146 cases of invasive breast cancer were registered at RHC-FOSP. The median age of women at diagnosis was 55.9 years. By the end of the follow-up (December 31st, 2017), 20,683 patients died and 71.4% were due to breast cancer. The probability of specific survival for the entire cohort at 5 and 10 years was 76.1% (95%CI 75.7-76.5%) and 64.8% (95%CI 64.2-65.3%), respectively. In the multivariate analysis, the factors associated with the prognosis were: age at diagnosis, year of diagnosis, educational level, grouped clinical stage and histological type. **Conclusion:** Specific survival for breast cancer in the state of São Paulo is significantly associated with several characteristics. The knowledge of these characteristics can contribute to the development of public policies in the area.

HISTOLOGICAL PROFILE OF PATIENTS SERVED IN A REFERENCE CENTER IN THE CITY OF SÃO PAULO

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Introduction: Breast cancer is the most common cancer in women worldwide. In Brazil, according to INCA, it had an incidence of 57,900 new cases in 2018, 16,340 cases in the state of São Paulo. The WHO classifies tumors according to morphological criteria, including non-special breast cancer (CMI-SOE), which is seen in 70% of cases, with more than 20 other special histological types, among which invasive lobular carcinoma (ILC) has a higher prevalence (10-15%). **Objective:** To describe the histological profile of breast cancer patients at the Pérola Byington Hospital between the years 2009 to 2019. **Method:** Cross-sectional, descriptive study, obtained through a database review. It included patients with suspected invasive neoplasms seen at the service. **Results:** During the period, 10,539 patients with malignant lesions and ductal carcinoma *in situ* (DCIS) were treated, among those who had cancer, 91% were CMI-SOE, 5% lobular neoplasia, and 3.95% of the other special subtypes. The least frequent type was metaplastic, with only 20 cases in the period. In addition, 7.14% of the patients seen had DCIS. **Conclusions:** It is possible to observe the predominance of CMI-SOE in this series, as well as described in analyses carried out throughout the country and in the world, followed by lobular carcinoma and other special subtypes.

IMPACT OF THE SERVICE OF THE EDUCATION GROUP AND ONCOLOGICAL STUDIES ON THE DIAGNOSIS OF BREAST CANCER IN CEARÁ

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Introduction: Breast cancer remains the most prevalent in Brazilian women, with the exception of non-melanoma skin cases. Performing disease control uses awareness strategies, clinical criteria for suspected cases, and diagnostic confirmation in a single service (INCA, 2015). The Oncology Education and Studies Group (*Grupo de Educação e Estudos Oncológicos* – GEEON) is a Reference Service for Breast Cancer Diagnosis (SDM), located in Fortaleza, Ceará. **Objectives:** To identify the impact of GEEON's SDM on cancer diagnosis in Ceará. **Method:** Retrospective, evaluative study of the services provided at GEEON in the period from 2016 to 2019. The data underwent univariate statistical analysis. **Results:** The service grew by 256% in the number of visits, increasing from 6,758 to 17,301, with a total of 44,309. Mammographic screening is the most frequent procedure, evolving from 2,570 to 9,366 annual exams, with an average of 5,058. It showed a high rate of absenteeism, with an average of 31% per year. Of the 20,234 mammograms performed, 683 patients (3.4%) did not receive the result. The average of tests performed was classified as Bi-rads 4 and 5 and was approximately 2%. The mean positive rate of biopsies performed is 31%, resulting in an average of 176 diagnoses per year, which represents 8% of the total estimated for Ceará. Of these, about 40% are in women under 50 years of age. The organization of the service along the lines of patient navigation carries out an active search for suspected mammographic lesions for immediate diagnosis, as well as a reference for tertiary care in cases of positive biopsy, through telephone contact. **Conclusions:** The consultations performed at GEEON identify 8% of the estimated cases for each year, a high percentage in young women, outside the scope of the screening policies.

FAMILIAL BREAST CANCER

ANALYSIS OF VARIATORS IN THE BRCA1 AND BRCA2 GENES BY NGS IN PATIENTS FROM CENTRAL BRAZIL WITH SUSPECTED HBOC SYNDROME: A NEW PATHOGENIC VARIANT IDENTIFIED

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About 10-15% of breast cancer cases are due to deleterious germ changes, more than half of which are located in the BRCA1 or BRCA2 genes. The screening of variants in these genes for patients at risk brings benefits for better clinical management of the patient as well as for the prevention of disease recurrences both in the proband and in their relatives. The profile of genetic variants is little known to the Brazilian population and, to date, there are no published data for the population of the central region of the country. This study aimed to analyze the profile of pathogenic variants (VP) and of uncertain significance (VUS) in the BRCA1 and BRCA2 genes in this population. We selected 102 patients seen at *Hospital das Clínicas, Universidade Federal de Goiás*, with clinical diagnosis of invasive ductal carcinoma that met the criteria of the National Comprehensive Cancer Networking 2016/2 for hereditary breast and ovarian cancer syndrome. A collection of 4mL of peripheral blood was carried out and submitted to subsequent extraction of genomic DNA, carried out using the PureLink kit (Invitrogen). The genes in question had all their exon-intron regions sequenced using the MiSeq device (Illumina) and the raw data were evaluated using the Sophia DDM software. The risk of *in silico* pathogenicity of the VUS was analyzed by the software POLYPHEN2, MutationTaster, SIFT, ESP5400, G1000, GnomAD. Of the total of 102 patients evaluated in this study, 22 (21.56%) had PV or VUS in the BRCA1 or BRCA2 genes. Of these, 16 patients (72.81%) had pathogenic variants, eight with PV in BRCA1 (c.5266dupC (2), c.3331_3334delCAAC, c.211A>G, c.3228_3229delAG, c.3700_3704delGTAAA, c.4484G>T and c.5305_5306ins20) and eight with PV in BRCA2 (c.156_157insAlu, c.4829_4830delTG, c.8488-1G>A, c.6405_6409delCTTAA (3), c.517-1G>A, c.2808_2811delACAA). A total of 7 patients (31.8%) presented VUS in these genes, one in the BRCA1 gene (c.179A>G) and five in the BRCA2 gene (c.280C>T, c.811G>A, 1096T>G, 1441A>G and c.5270A>G) of which only the variant c.1441A>G had low pathogenic potential *in silico*. A new PV still not described in the literature was also identified, variant c.5305_5306ins20 in the BRCA1 gene. These data suggest that all patients at risk in this population should be evaluated for PV or VUS in the BRCA1 and BRCA2 genes since the presence of these variants can help in the patient's prognosis and disease prevention.

BREAST AND OVARIAN CANCER RISK REDUCTION OPTIONS FOR WOMEN WITH PATHOGENIC VARIABLES IN THE BRCA1 AND BRCA2 GENES

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Introduction: Most breast and ovarian cancers in women are sporadic. However, five to ten percent of these individuals may have an inherited predisposition to cancer (Famorca-Tram, 2015). Women with pathogenic variants in BRCA1 are at risk of breast cancer of up to 72% and of ovarian cancer of up to 44%. Pathogenic variants of the BRCA2 gene increase the risk of breast cancer by up to 69% and of ovarian cancer by up to 25%. Risk reduction measures include: risk-reducing mastectomy, salpingo-oophorectomy, and chemoprevention. For women who do not choose any of these measures, follow-up with periodic examinations is necessary. In this work, the risk reduction measures adopted by 52 women with pathogenic variants in BRCA1 or BRCA2 in a tertiary hospital in São Paulo, Brazil, are analyzed. In addition, it was analyzed what factors could influence the risk-reducing measure adopted. Materials and methods: cross-sectional study with a sample of 52 women with pathogenic variants identified in the BRCA1 and BRCA2 genes seen at a tertiary hospital. **Results**: 80.8% opted for surgical management as a risk-reducing measure, with 46.2% of women having had prophylactic mastectomy, 11.5% having had bilateral salpingo-oophorectomy, and 23.1% having undergone both surgical procedures. Non-surgical management occurred in 19.2% of the cases, with 8% (3 cases) undergoing chemoprophylaxis with tamoxifen and 15.4% undergoing surveillance. **Conclusion**: Most patients opted for surgical intervention, with risk-reducing mastectomy being the most frequent one, followed by salpingo-oophorectomy. When testing was not requested by the geneticist, there was a greater tendency toward the surgical option.

TESTING BRCA OR MULTIGENIC PANELS AFTER MEDICAL RECOMMENDATION

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Introduction: Hereditary breast cancer represents about 10% of breast cancer cases. Risk factors for hereditary breast cancer are family history of breast cancer, ovarian cancer, breast cancer in men, among others, especially at an early age and bilateral tumors. Several hereditary syndromes have been described in relation to breast cancer, the most frequent being the Breast, Ovarian and Pancreatic Cancer Syndrome, determined by mutations in the BRCA 1 and 2 genes. In Brazil, the difficulty of accessing the genetic test of the public and private systems is still a reality, mainly due to elevate costs. **Objectives**: To raise patients' adherence to perform the BRCA test or multigene panels after medical recommendation at a private clinic in Piauí. **Method**: This is a retrospective study, evaluating medical records of patients seen in the period from 1999 to 2019. This study included all patients who had a recommendation to perform the BRCA mutation research or multigene panels. The study was approved by the ethics and research committee of *Universidade Federal do Piauí*, Opinion n. 2.817.502. **Results**: 164 patients who had a recommendation for genetic testing were studied. There were 162 female patients (98.7%) and mean age was 48.3 years. As for the presence of cancer, breast cancer was the most frequent one with 82 (79.6%) cases; as for survival, 5 (3.0%) of the cases evolved to death. 86 (52.4%) of the patients underwent the test, with mean gap between the recommendation and the test itself of 2.3 years. Of those who performed the tests, 23 (26.7%) had mutations in the BRCA gene, 15 (65.2%) in BRCA1, and 8 (34.8%) in BRCA2. **Conclusions**: 52.4% of the patients recommended for genetic testing performed the research. Of those who performed the tests, 26.7% had mutations in the BRCA gene, 65.2% in BRCA1, and 34.8% in BRCA2.

RISK FACTORS AND MODELING

RISK OF BREAST CANCER IN THE BRAZILIAN POPULATION

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Background: Breast cancer is the second most common malignancy in female patients, thus becoming an important topic for public health. The current Gail model, already validated for other populations (*e.g.* White, African American, Native American, Asian), has been applied in other regions (*e.g.* Turkey, Qatar, Iran, Korea), however, without reflecting the ethnic diversity that the Brazilian population brings with it, through the intense miscegenation that occurred over centuries of civilization after the arrival of the Portuguese. Mobile applications are also part of the clinical practice, helping and streamlining clinical decisions, bringing benefits to healthcare professionals and patients. **Objective:** To translate, culturally adapt, and validate a tool for estimating the risk of developing breast cancer and to create an application for calculating the risk of developing breast cancer. **Methods:** Translation of the tool available on the National Cancer Institute (NCI) website from English to Portuguese (including backtranslating). Cultural adaptation through a questionnaire consultation with mastologists. Validation of the tool in a prospective observational study conducted through an interview, using the translated tool. Patients who were users of the Brazilian Unified Health System (*Sistema Único de Saúde* – SUS) were approached at the special clinic of *Hospital Samuel Libânio*, Pouso Alegre, Minas Gerais. Patients with a history of Lobular or Ductal Carcinoma *in situ* were interviewed, as well as those with mutations in the BRCA1 and BRCA2 suppressor genes and other hereditary syndromes associated with an increased risk of breast cancer (*e.g.* Cowden Syndrome , Li Fraumeni Syndrome). The risk of developing breast cancer over 5 years and throughout life has been calculated. **Result:** It is observed that 61.9% of the evaluating professionals were females, with a mean age of 35.9 years (SD=7.1 years), 76.2% were white, 95.2% were specialized in Mastology, and 66.7% had from 1 to 5 years of experience in the area. It is also observed that 100% attended the screening and 85.7% said they had no difficulty in identifying the risk factor. The mean age of the patients submitted to the interview was 49.9 years (SD=13.4 years), with a minimum age of 35 years and a maximum of 79 years. 62.5% of women were white, 50% had their menarche between 12 and 13 years old, 31.3% had their first term pregnancy before the age of 20 and 56.3% did not report first-degree relatives with breast cancer. The risk calculated using the tool for eligible patients was 1.3% over the next five years (Standard Deviation±0.86) and 12.41% over life (Standard Deviation±8.72), with no significant difference compared to the general population. **Conclusion:** The tool has been translated, culturally adapted, and validated according to international protocols for successful tool validation. The application for Android platform was developed.

WEEKLY EVALUATION OF ESTROGEN α AND PROGESTERONE RECEPTORS IN THE MAMMARY EPITHELIUM OF WOMEN AFTER THE USE OF COMBINED ORAL HORMONAL CONTRACEPTIVES FOR ONE MONTH

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The increased risk of breast cancer (BC) is the most controversial adverse effect of combined oral hormonal contraceptives (COHC). An evaluation of hormone receptors (HR) revealed that their expressions are inversely proportional to the rate of cell proliferation, with a hierarchy where proliferative cells would be controlled by paracrine factors released by positive HR cells. Thus, the greater the proliferation, the greater the risk of the actions of environmental carcinogens. Compare the expressions by immunohistochemistry (IHC) of estrogen α (ERα) and progesterone receptors (PR) weekly in the mammary epithelium (ME) of patients using COHC for one month with those in the natural cycle. Retrospective cohort study of 118 women, 42 of whom were excluded and with a final sample of 76 women. Study group (A) consisted of 31 users of COHC with 30 µg of ethinyl estradiol (EE) and 150 µg of levonorgestrel (L), and control group (B), 45 non-users of COHC. In parity comparison, the Fisher's exact test was used, and for the mean ages, the Student's *t*-test for independent samples. The Generalized Estimation Equation (EEG) model was used to evaluate ERα and PR counts over the four weeks and compare them. The Analysis of Variance (ANOVA) with two fixed factors and the Kolmogorov-Smirnov test were used to compare the total ERα and PR counts. Statistical analyses were performed using the SPSS 20.0 and STATA 12 programs, with a significance level of 5% ($p \leq 0.05$). As for age, group B had a mean age of 23.7 ± 5.9 years compared to group A, with a mean age of 20.5 ± 5.1 years, statistically significant $p=0.016$. With regard to parity, group A presented 83.9% of nulligravida *versus* 73.3% in group B, with $p=0.164$ without statistical significance. According to GEE, group A had higher mean percentages of ERα ($p<0.001$) and PR ($p<0.001$) when compared to women in the control group. The expressions of the IHC of the ERα and PR in percentages, weekly in the ME of the patients in the users of COHC presented higher mean percentages of ERα and PR, both statistically significant, when compared with non-users.

CLINICAL-EPIDEMIOLOGICAL PROFILE OF PATIENTS WITH TRIPLE-NEGATIVE BREAST CANCER AT INSTITUTO MÁRIO PENNA, BELO HORIZONTE, MINAS GERAIS

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Introduction: Triple-negative breast cancer (TNBC) does not express estrogen and progesterone receptors, and does not overexpress the human epidermal growth factor 2. It represents 15%-20% of breast cancers and have worse prognosis, with scarce available therapies and overall survival (OS) of 18 months. For these particularities, research on TNBC is important for its greater understanding. **Objectives**: To describe the clinical-epidemiological profile of patients with TNBC at *Instituto Mário Penna* (IMP). To compare findings with data from the literature. **Methods**: Consultation of breast immunohistochemistry (IHC) performed at IMP between July/2012 and June/2017. TNBC were selected. Data were collected from patients in electronic medical records. Maximum follow-up until December/2018. Database and statistical analysis using the SPSS program. Bibliographic review used the key phrase: "triple-negative breast cancer". **Results**: 1,343 breast IHC performed at IMP in the studied period, 168 were TNBC (12.5%). Mean age of 53.4 years. Mean follow-up of 41.7 months. Neoadjuvant chemotherapy (CT) performed in 46.4%, with 12.8% of complete pathological response. Mean SG of 23.6 months, 20.2% progressed before the end of the treatment. Tumor mean size of 4.04 cm. Mortality of 22%, with 31.5% without information on death in the medical record, and about 17% on average with missing information. Table 1 shows the frequency distribution of the variables evaluated. **Discussion**: TNBC is a heterogeneous group of diseases, more commonly found in people aged under 40 years, of African descent, diagnosed at an advanced stage and with a high histological grade. Earlier metastasis, preferably visceral. More sensitive to CT, but with worse OS compared to other subtypes. Use of platinum, capecitabine and recent studies with immunotherapy are promising, in the search for better outcomes. **Conclusion**: The profile of patients with TNBC in IMP is compatible with that described in the literature. This study is a hypothesis generator and the basis for more complex research. High rates of missing information are a limiting factor.

METABOLIC SYNDROME AND OBESITY AS FACTORS OF GOOD PROCNOSTIC ONCOLOGY IN WOMEN IN POST-MENOPAUSE WITH RECENT DIAGNOSIS OF BREAST CANCER

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Objective: To evaluate the association between metabolic syndrome (MS), obesity, and central fat deposition with the immunohistochemical profile (IHC) of breast cancer (BC) in postmenopausal women. **Methods**: A comparative cross-sectional clinical study was carried out with 63 women with recent BC and MS, compared to 126 women with recent BC, without MS (control group). Inclusion criteria were: women aged 45-75 years, amenorrhea >12 months, without previous cancer treatment, attended at a University Hospital. The groups were matched for age, time since menopause, and body mass index (BMI), in the proportion of 1 case for 2 controls, according to the sample calculation of at least 186 women in their entirety. Clinical and anthropometric data were collected; tumor size and grade and the IHC profile (ER, PR, HER2, and Ki67). By IHC convention, tumors were grouped into five subtypes: Luminal A (ER+, PR+, HER-2 -, and Ki-67 <14%); Luminal B HER-2 - (ER+, PR+ or -, HER-2 -, and Ki-67≥14%); Luminal B HER-2+ (ER+, PR+ or -, HER-2+, and any Ki-67); Non-luminal HER-2 (ER-, PR-, HER2+, and any Ki-67); and Triple-negative (ER-, PR-, HER2-, and any Ki-67). Women with three or more diagnostic criteria were considered with MS: waist circumference (WC)>88 cm; TG≥150 mg/dL; HDL cholesterol<50 mg/dL; blood pressure ≥130/85 mmHg; glucose ≥100 mg/dL. For statistical analysis, the Student's t-test, Gamma Distribution, χ^2 test and logistic regression (odds ratio–OR) were used. **Results**: Among the participating women, the mean age, time since menopause and BMI were: 59.0±10.6 years, 11.4±9.6 years, and 28.5±5.5 kg/m^2, respectively; there was no statistical difference in the comparison between the groups. Women with MS had a higher occurrence of tumors ≤2cm when compared to those without MS (49.2 *vs.* 31.8%, respectively) (p=0.038). Women with MS had a higher incidence of tumors with PR-positive (p=0.046), HER2-negative (p=0.038), when compared to women without MS (79.4 *vs.* 65.8% and 44.5 *vs.* 27.8%, respectively). In obese patients (BMI≥30 kg/m^2), a higher proportion of HER2 negative tumors (p=0.047) was observed when compared to non-obese women (43.9 *vs.* 27.7%, respectively). In the multivariate analysis, a higher risk for tumors of the Luminal B HER-2 negative subtype was observed among women with MS (OR 2.00, 95%CI 1.03-3.89), obese (OR 2.03, 95%CI 1.06-3.90), and with central deposition of fat (OR 1.96, 95%CI 1.01-4.03). **Conclusion**: Metabolic syndrome, obesity, and central fat deposition correlate with factors of good prognosis for breast cancer, such as tumors ≤2 cm, PR+ and HER2-, in postmenopausal women.

ANÁLISE DE CARCINOMAS MAMÁRIOS BILATERAIS: UM PERFIL DAS PACIENTES DE UM SERVIÇO DE REFERÊNCIA

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Introduction: Bilateral breast cancer (BBC) is a rare clinical entity. This pattern of neoplasia can be considered synchronous (simultaneous) or metachronous (1 month to 1 year later). **Objective:** To select cases of BBC patients seen at HC-UFPR and to recognize in these patients clinical and family characteristics, histological and immunohistochemical patterns, and incidences of synchronous/metachronous occurrences. **Method:** An observational and analytical study of BBC cases of patients treated at HC-UFPR, from January 2003 to October 2019, based on the analysis of medical records, was developed. **Result:** 42 patients with BBC were selected and 4 patients were excluded from the study due to incomplete information in the medical record. The incidence of BBC in the surveyed period was 3.64%. All patients are women with a mean age of 51.82 years. White ethnicity is the most prevalent one (82%). With regard to menopausal status, 42% of the subjects are pre-menopausal and 58%, post-menopausal. Regarding parity, only 16% were nulliparous. Half of the patients have a positive family history for neoplasms, with breast cancer present in 46%, ovarian cancer in 16%, and other topography in 68%. In this sample, the synchronous tumor was present in 55% of the patients and the metachronous tumor in 45%. Regarding the patients' initial clinical staging, 61% presented with locally advanced tumor at the first consultation. In the group of synchronous tumors, the ductal type was the most frequent one (93%), followed by the lobular type (7%). Regarding immunohistochemical subtypes, patients had Luminal B tumors (43%), followed by HER (29%), Triple negative (24%), and Luminal A (5%). Comparing the immunohistochemical profile in both tumors, 62% were in agreement and 48%, in disagreement. In the group of metachronous tumors, the mean time between the diagnosis of the first tumor and that of the second tumor was 5.68 years. The most common histological type was ductal carcinoma (73%), followed by lobular carcinoma (11%), medullary carcinoma (9%), and metaplastics (7%). Regarding the immunohistochemical profile, the most present was Luminal B in 32%, Luminal A in 29%, Triple negative in 24%, and HER 2 in 15%. The immunohistochemical profile was consistent in only 29% of the patients. **Conclusion:** In this sample, BBC is associated with relevant family history, with a pattern of presentation, synchronous; frequently, ductal is histological and Luminal B is immunohistochemistry.

PREDICTIVE BIOMARKERS

COMPARISON BETWEEN THE AMERICAN JOINT COMMITTEE ON CANCER (AJCC) ANATOMIC AND PROGNOSTIC STAGES FOR BREAST CANCER

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Introduction: The knowledge regarding the biology of breast cancer has grown substantially and resulted in the identification of different breast cancer subtypes based on their molecular profile, which led to an important change in treatment, from a standardized therapy to a personalized one. A panel of experts and AJCC representatives were responsible for preparing the most recent Cancer Staging Manual. The panel recognized the clinical usefulness of biological factors such as histological grade, expression of hormone receptors (HR; estrogen and progesterone) and overexpression and/or amplification of the human epidermal growth factor receptor 2 (HER2) in predicting patient survival[7] and incorporated data regarding these biomarkers in the new staging system. In addition, for eligible cases, the 'Recurrence score' was also incorporated, generated by the analysis of OncotypeDx (genomic test). The new manual, therefore, started to use 3 stagings. Anatomical staging – based on the classic TNM; clinical prognostic staging and pathological prognosis – association of TNM with prognostic biomarkers (using clinical data in the first and data after surgical treatment in the second). **Objective:** To verify the agreement between anatomical staging from the 7th edition of the AJCC manual and the prognosis from its 8th edition in a cohort of breast cancer patients at the *Hospital do Servidor Público Estadual de São Paulo.* **Methodology:** Observational and cross-sectional study, which evaluated patients undergoing surgical treatment at *Hospital do Servidor Público Estadual* from March, 2014 to March, 2019. Information was collected regarding age, menopausal status, tumor characteristics, anatomical and clinical staging, neoadjuvant chemotherapy, adjuvant chemotherapy and radiotherapy, and type of surgery performed. Patients were staged using the digital platform "TNM8 Breast Cancer Calculator". **Results:** 805 patients were included in the analysis. All patients were females aged between 29 and 97 years, mostly in the post-menopausal period (78.88%). 74.04% of cases were positive for ER, 66.21% PR-positive, and 88.07% HER2-negative. Prognostic staging downgraded a total of 285 out of 805 patients (35.4%). Almost all of the cases that decreased in staging were ER and/or PR+ (283 of 285). Most of those who went up were Triple Negatives (100 out of 111). **Conclusion:** Prognostic Staging changes the staging in almost half of the cases and there was a greater number of decreased staging in total and an association of increased staging with tumors considered to have a worse prognosis, which is in agreement with several studies already carried out since the new manual came out.

CORRELATION OF THE PATHOLOGICAL RESPONSE RATE WITH THE GLOBAL DISEASE AND SURVIVAL OF PATIENTS WITH SUB TYPE HER2 BREAST CANCER SUBMITTED TO NEOADJUVANT CHEMOTHERAPY AT *HOSPITAL DE CÂNCER DE PERNAMBUCO*

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Introduction: QT NEO starts from the premise of tumor downstaging, enabling excision of previously unresectable tumors, reducing surgical extension and, consequently, enabling higher rates of conservative surgery. It also allows an *in vivo* assessment of the neoplastic response to systemic therapy. PCR is a powerful indicator of the benefit of QT NEO and is associated with better outcomes for relapse, DFS and OS. **Objectives**: This study aimed to evaluate the pathological response rate of patients with CM HER2 who underwent QT NEO, treated at HCP in the years 2014-2016 and to correlate with the recurrence rates, DFS and OS, observing whether the data are in agreement with those reported in the literature. **Methods**: The study evaluated patients with BC HER2, confirmed by IHC and/or FISH, who underwent QT NEO followed by surgery from 2014 to 2016, treated at the HCP. It is a retrospective, observational, and descriptive study. The information collected comes from a questionnaire formulated by the researcher with the relevant points to be analyzed in the project. The data were stored and analyzed using SPSS, version 20.0. The Kolmogorov-Smirnov test, χ^2 test or Fisher's exact test were used to assess the variables. The DFS and OS time data were represented by the Kapplan-Meier curves and the Logrank test was used to verify a significant difference between the categories with or nPRC. A significance level of 5% was assigned to it. **Results**: The medical records of 58 patients with BC subtype HER 2 who received QT NEO followed by surgery were analyzed. During a mean follow-up of 35 months, 5 (8.6%) local recurrences and 20 (34.5%) distant ones and 18 deaths from breast cancer (31%) were observed. A result of 50% of PRC was achieved, with no correlation of statistical significance between age, histological type, nuclear grade, staging prior to QT NEO and chemotherapy regimen used. The PRC group achieved lower recurrence rates (20.68 *vs*. 51.72%) with statistical significance. DFS in the PRC group is 75.9% and in the nPRC group it is 44.82%. OS of the group with PRC is 82.7 *vs*. 48.2% in the nPRC group. Patients with HR- and PRC were the ones that most benefited from obtaining PRC in the recurrence and DFS outcomes, reaching recurrence rates of 22% and DFS of 77.8% compared to the HR group – without PRC, which had recurrence rates of 72% and DFS of 27.3%. **Conclusion**: This study found significant data with lower recurrence rates and better rates of DFS and OS in patients who achieved PRC, thus evidencing the impact that PRC has on long-term outcomes, especially in the HR- subgroup of patients.

CLINICAL AND LABORATORY CRITERIA USED FOR PATIENT SELECTION FOR ADJUVANT CHEMOTHERAPY IN POST-OPERATIVE BREAST CANCER

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Introduction: Breast cancer remains the second most common type of cancer in the world and the first among women, with breast cancer incidence rates doubling in the last thirty years. In 2013, the St Gallen Consensus recommended the use of a study of the multigene profile and phenotyping to indicate adjuvance by use of the MammaPrint and Oncotype4 applications; however, as they are not available in the Unified Health System (*Sistema Único de Saúde*–SUS), clinical predictive criteria and laboratory tests are used for indication of adjuvant therapy. **Objective:** Evaluation of clinical and laboratory criteria in the selection of patients with breast cancer after surgery for adjuvant chemotherapy and quantification of the factors used in the selected patients and their results. **Method:** This is a retrospective, cross-sectional observational study with patients over 18 years of age, without gender and race restriction, diagnosed with breast cancer at a public hospital in São Paulo, from 09/10/18 to 10/12/18, who underwent surgical treatment and discussed adjuvant therapy. Patients with metastatic neoplasia and/or undergoing neoadjuvant treatment were excluded. Data collected were: TNM staging, histological type and hormone receptors, age and comorbidities in all medical records collected. **Results:** 1,390 consultations were carried out, with 42 patients selected, according to the study criteria. Since 40% of the patients were outside the recommended range for breast cancer screening, regarding TNM, late diagnoses were evidenced, with 69% presenting ≥T2 and 36% with lymph node involvement. Of the 42 patients, 98% received adjuvant therapy. **Conclusion:** It was evidenced by Paik et al., that 92.1% of the 668 patients enrolled in the NSABP B-14 study were considered of intermediate or high risk according to the NCCN and St. Gallen criteria, and by Oncotype DX, 50.6% of the patients were classified as at low risk of recurrence. However, as these are not available in SUS, the present study shows the need to use clinical and laboratory factors to indicate adjuvant therapy, and with these, of the 42 patients, 98% had indication, showing that they are not such effective means in the use of genetic tests, and patients treated by SUS initiate their treatments late, which impacts disease-free survival, since less than 10% of patients received care with early stage neoplasia.

TOPOGRAPHIC DISTRIBUTION OF LYMPHOCYTE INFILTRATE IN TRIPLE NEGATIVE TUMORS AND ITS IMPACT ON THE SURVIVAL OF THE PATIENT WITH BREAST CANCER

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Introduction: Tumor infiltrating lymphocytes (TIL) are generally measured using subjective methods unable to differentiate subpopulations and to locate immune cells in the tumor microenvironment. The identification and location of these cells is of great importance as they present different responses to immune stimuli. **Objective:** to analyze the presence of TIL in early-stage breast cancer of the triple negative molecular subtype, and to evaluate the association of TIL with the overall survival time (OS). **Methods:** a cross-sectional study was carried out at the *Hospital de Câncer de Pernambuco* (HCP), where patients diagnosed with triple negative breast cancer were selected between 2009 and 2013. TIL evaluation was performed by two methods: on slides stained with hematoxylin and eosin (H&E), by two pathologists blindly and independently, and on slides submitted to immunohistochemistry, with CD3 and CD8 lymphocyte marking. In this case, the sample was then subjected to computerized histophotometry and morphometric analysis. **Results:** 87 patients were included, of which 22 patients had an event in the follow-up period. The evaluation of TIL, by two pathologists, showed regular agreement between the evaluators, with an intraclass correlation coefficient of 0.574 and p=0.001. CD3+ and CD8+ lymphocytes were in greater quantity in the intra tumor area compared to those outside the tumor margin (*extra tumor*). When the association between the presence of lymphocytes and the patient's OS was analyzed, a directly proportional relationship with this survival was observed, that is, the greater the amount of lymphocytes, the lower the risk of death. **Conclusion:** results suggest that there is a correlation between the tumor lymphocyte infiltrate of triple negative breast cancer and OS. As this tumor subtype has a poor prognosis and does not have specific target therapy, TIL analysis can be explored as a prognostic marker for the treatment of breast cancer.

CORRELATION BETWEEN THE PRESENCE OF ANDROGENIC RECEPTORS AND MOLECULAR AND HISTOPATHOLOGICAL VARIABLES IN BREAST CANCER

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Introduction: The expression of androgenic receptors (AR) is a new predictive marker of response and prognosis in invasive breast carcinoma (BC). It emerges as a potential therapeutic target. **Objective**: To evaluate the frequency of AR positivity and its correlation with molecular and histopathological parameters in infiltrative BC. **Method**: Retrospective cohort study, analyzing 119 cases of invasive non-metastatic BC, seen at a private clinic. Hormonal receptors were screened by immunohistochemical reaction, and AR were considered positive when present in at least 10% of cells, ER and PR from 1%. This finding was correlated with pathological staging, histological grade (HG), vascular-lymphatic invasion (VLI), estrogen (ER) and progesterone receptors (RP), HER2 and Ki 67. **Results:** Androgen receptors were positive in 80.6% of cases. In the assessment of pathological staging, of the 63 patients with stage I, 81% showed positive androgen receptors, while among the 28 patients with stage II, 75% had positive androgen receptors, and 88% of the 17 patients with stage III presented the positivity of the recipient. Regarding the histological parameters of the tumor, 16 patients had grade 1 tumors, 93.7% of them with positive androgen receptors, while among the 63 with grade 2 tumors 90.4% had androgen receptor positivity, and only 59, 3% of the 27 tumors evaluated as grade 3 had a positive androgen receptor. The vascular-lymphatic invasion was negative in 57 patients, 78.9% of the tumors with positive androgen receptor. Among the 56 tumors with positive vascular-lymphatic invasion, 85.7% had an androgen receptor positivity. In the immunohistochemical evaluation of tumors, among the 95 patients with positive estrogen receptors, 91.5% also had positive androgen receptor, which was positive in only 37.5% of the 24 patients with negative estrogen receptors. Of the 21 patients who had tumors with overexpressed HER, 85.7% also had positive androgen receptors, which were also positive in 86.4% of 96 without overexpression of HER2. In the evaluation of cell proliferation by the Ki67 antigen, among the 50 tumors with Ki67 <20%, 94% had positive androgen receptors, while 83.7% were positive among the 49 tumors with Ki67 between 20 and 50% and only 35% positivity of androgen receptors in 17 tumors with Ki67> 50%. **Conclusions**: AR positivity is associated with more differentiated hormone-dependent tumors with a lower proliferation rate.

LOBULAR PLEOMORPHIC CARCINOMA VERSUS INVASING LOBULAR CARCINOMA: CLINICOPATHOLOGICAL CHARACTERISTICS AND PROGNOSTIC EVALUATION

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Introduction: Pleomorphic lobular carcinoma (PLC) is a rare variant of invasive lobular carcinoma (ILC) that has a higher degree of cell atypia and pleomorphism, and has been associated with factors with a worse prognosis such as larger tumor size, and greater lymph node involvement, however, its real prognostic value is still not well defined. **Objectives**: To evaluate the clinical-pathological characteristics, overall survival, and disease-free survival in PLC and compare it to ILC. **Method**: All ILC and PLC cases submitted to surgery at *Hospital Nossa Senhora das Graças* from January 1st, 2008 to January 31st, 2018 were analyzed. The main clinical and pathological variables related to prognosis were analyzed, as well as the overall survival and disease-free survival for both groups. **Results and Discussion**: 77 cases of ILC and 35 of PLC were found. The PLC group presented factors of worse prognosis in relation to the ILC group, such as a higher histological grade ($p<0.001$), presence of lymphovascular invasion ($p<0.001$), greater axillary lymph node involvement ($p=0.003$), and higher Ki-67 rates ($p<0.001$). Contrary to what was expected, we did not find a greater expression of HER2 ($p=0.095$) in the PLC, and there was also no significant difference between the groups regarding disease-free survival and overall survival. **Conclusions**: PLC still cannot be considered as an independent variable with a worse prognosis and more studies are needed to better understand this entity.

SPONTANEOUS REGRESSION OF MALIGAN BREAST NEOPLASIA IN A FEMALE PATIENT WITH HIGH LEVEL OF IMMUNOGLOBULIN IG E

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M.C.V., aged 54, born in Presidente Bernardes, Minas Gerais, was admitted on 09/10/2018 with a palpable alteration in the right breast, having a 15mm heterogeneous lobed nodule at the junction of the upper quadrant of the right breast (BI-RADS 5) with mammography having focal asymmetry in the same position (BI-RADS 0), being submitted to core-biopsy by ultrasound with resulting Infiltrating Ductal Carcinoma – Grade 3. Immunohistochemical pattern reveals positivity of the estrogen and progesterone hormone receptors, C-ERB B2 with a score of +2 and Ki67-positive by 20%. Negative Fish test. She refused treatment, returning to the service on 14/08/2019 with normal physical examination, an 8 mm ultrasound lesion at the junction of the upper quadrants of the right breast (BI-RADS 6) and regression in mammography of focal asymmetry. Staging study performed with chest X-rays, total abdomen ultrasound and normal bone scintigraphy. Laboratory study was normal, except for the high level of total IgE in 4,290. She underwent segmental and sentinel lymph node resection in the right breast on 17/08/2019 at Hospital São Vicente de Paula, Ubá, Minas Gerais, with histological result, infiltrating lobular carcinoma, 9 mm in size, free margins and study of the negative sentinel lymph node. Radiotherapy and use of Tamoxifen 20mg for 5 years were indicated. It was possible to conclude that there is something different, possibly associated with the high level of IgE, which we continue to study to further understand.

RELATIONSHIP BETWEEN TILS AND NEOADJUVANT CHEMOTHERAPY RESPONSE IN BREAST CANCER

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Introduction: Breast cancer corresponds to 25% of new cancer cases each year. In Brazil, the rate is 29.5% and 59,700 new cases were estimated in 2019. Tumor infiltrating lymphocytes (TIL) are observed in some solid tumors, including breast cancer, the amount of TIL is an indirect marker of the pre-existing antitumor activated T cell response, reflecting the host's antitumor immunity. Studies show that its presence is an independent predictor of complete pathological response (PRC) to neoadjuvant chemotherapy (QTneo) and its presence provides a favorable prognosis in breast cancer. **Objectives:** To evaluate the relationship between the presence and value of TIL with the pathological response after QTneo in patients with breast cancer. **Materials and methods:** An analytical, descriptive, retrospective, case-control study was carried out with 40 patients diagnosed with breast cancer who underwent QTneo between 01/01/2016 to 01/01/2019 at the ISPON complex in the city of Ponta Grossa, Paraná. Data collection was carried out in electronic medical records. The association between variables was tested with the χ^2 test and the intensity of the association with the Odds Ratio estimate with a 95% confidence interval. TIL were considered absent when 0, low when 1% to 10%, moderate when 11% to 59%, and high if 60% or more; this division was based on other articles that quantify TIL. **Results:** The mean age of the patients in the study was 50 years old, 13 of them (32.5%) had PRC, 15 (37.5%) had a partial response, and 13 (30%) had no response to QTneo. Of the 13 that obtained PRC, 7 (53.8%) were triple negative (TN), 5 (38.4%) HER 2, and 1 (7.6%) Luminal. PRC was more frequent in triple negative invasive ductal carcinoma (53.8%), the frequency of PRC in the luminal subtype was significantly lower than that of TN (p=0.03), with the worst response to QTneo. The mean age of patients who had PRC was 48 years. TIL were present in 27 (67.5%) patients, whose value was low in 57.5%, moderate in 3 patients, and high in one case. The presence of TIL, regardless of their value, increased the probability of PRC by 7.7 times when compared to their absence (OR 7.7 CI 1.15-51.17 p=0.03). When considering its value, it was found that higher values conferred a significant association with PRC (p=0.01). There was a statistically significant association between the clinical stage (CS) and the presence of response to QTneo, patients with locally advanced neoplasia were 6.44 times more likely to respond than patients in an early stage (p=0.015). **Conclusion:** TIL can be used as a predictor of response to QTneo, being an aid in choosing this treatment and an indicator of better prognosis. The evaluation of TIL should be performed routinely in the preparation of anatomopathological reports, as it is an indication of the investigation of PD-L1 and its blockade, if present.

CLINICAL AND PROGNOSTIC IMPACT OF CHANGES IN THE TNM SYSTEM OF THE AMERICAN JOINT COMMITTEE FOR CANCER, EIGHTH EDITION, IN PATIENTS WITH BREAST CANCER

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In Brazil, breast cancer is the first among the most prevalent malignancies in women, without considering non-melanoma skin cancer. However, in spite of the high number of deaths caused by breast cancer, there has been a great reduction in mortality rates and greater survival of patients with metastatic disease in the last decades. Such improvements are related to advances in treatment and greater knowledge about the biology of breast cancer. The American Joint Committee for Cancer (AJCC) cancer staging system is one of the important tools for doctors, and helps to predict disease progression and make therapeutic decisions. Therapeutic planning and prognosis of patients is possible through staging. Since the publication of the first edition of the Cancer Staging Manual, AJCC has insisted on seeing anatomical information. TNM staging (T: tumor; N: lymph nodes; M: metastasis). Limitations regarding this staging method were evidenced, as it is based only on anatomy and does not take biological factors into account. Through immunohistochemical study, breast cancer is subdivided into different molecular subtypes. When considering the modifications of the new edition of the TNM/AJCC system with respect to the prognostic and predictive factors of cancer, there may be a reclassification of patients, leading to a more reliable approach to their real disease condition. **Objective**: To analyze the impact generated by the update of the TNM/AJCC staging system (eighth edition), in the classification of patients with breast cancer seen at Hospital Ophir Loyola, a referral oncology hospital in the city of Belém, state of Pará, in 2018. **Method**: 176 medical records of patients undergoing treatment at Hospital Ophir Loyola, in 2018, were analyzed, which had information on the staging of the seventh edition and with immunohistochemical results. **Result**: 61.93% were between 40-60 years old, 46.2% were from the capital. Regarding the stage of diagnosis according to the 7th edition, 23 patients (13%) were in stage I, 66 cases (37.5%) in stage II, and the vast majority, totaling 77 cases (43.8%), in stage III. In addition, there were 03 cases (1.7%) in stage 0 (zero), and 07 cases (4%) in stage IV. There was a change in disease staging for 60.8% (107/176; 95%CI 53.4-67.7) of the cases, 36.5% (39/107; 95%CI 28.0-45.9) of these cases were upstaged, and in the others (63.5%, 68/107; 95%CI 54.1-72.1), the change was to a lower prognostic category (down-staged). There was a significant increase in the proportion of cases staged in 2018 as IB and a significant reduction in cases staged by the most recent criterion such as IIB and IIIA (p<0.0001). Conclusion: the changes to new staging have shown to be more effective on the behavior of the tumor, helping in therapeutic decisions.

UNI-INSTITUTIONAL ANALYSIS OF PATIENTS DIAGNOSED WITH BREAST DUCTAL CARCINOMA IN SITU TREATED WITH BREAST-CONSERVING SURGERY AND ADJUVANT RADIOTHERAPY

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Introduction: The treatment for Ductal Carcinoma in situ (DCIS) can be mastectomy, breast-conserving surgery with or without adjuvant Radiotherapy (RT). Regarding the conserving treatment, ipsilateral recurrence is the main reason of concern. Randomized studies show that RT reduces the risk of local recurrence (LR). Age, comedonecrosis, absence of endocrine therapy (ET) and positive margins are also prognostic factors. **Objective**: To assess the local relapse-free survival (LRFS) of patients with DCIS treated with breast-conserving surgery, followed by adjuvant RT, and to identify possible prognostic factors related to LR. Method: between March 2007 and December 2017, we identified 95 women diagnosed with DCIS and treated with breast-conserving surgery and adjuvant RT in Hospital São Paulo (HSP/UNIFESP). Regarding RT, we used the 3D technique with conventional fractionation (50/50.4 Gy and 2/1.8 Gy fraction per day), or hypofractionation (40 Gy and 2.67 Gy fraction per day). The data were submitted to descriptive analysis and evaluation of LR. Factors such as characteristics of the patients, the tumor and the treatment were correlated by using Fisher's Exact Test and Kruskall-Wallis test. The log-rank test was used for the Kaplan-Meier comparison. The results were considered as statistically significant when $p<0.05$. **Results**: 71.6% of the patients were 50 years old or older; margins were negative in 70.5% of the cases, and 78.9% of the patients presented with positive hormone receptors. Regarding RT, 89.5% of the patients were treated with conventional fractionation. The median follow-up of patients was 67 months (8-150 months). LRFS was 97.8% and 91.9% in 5 and 10 years, respectively. Among the assessed factors, negative hormone receptors ($p<0.001$) and absence of ET ($p=0.022$) were prognostic factors for LR. The margin status was not associated with higher rates of LR. **Conclusion**: The LRFS of the patients diagnosed with DCIS who underwent a conserving treatment in HSP/UNIFESP is favorably compared to the results described in the literature. Negative hormone receptors and absence of ET had an influence on local control.

AUTOIMMUNE GRANULOMATOUS MASTITIS – CASE REPORT

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Introduction: Idiopathic lobular granulomatous mastitis (ILGM) is a chronic, benign, inflammatory disease which affects women with mean age of 33 years, usually with recent lactation. Defined by granulomas and microabscesses in mammary lobes, it can be suggestive of carcinoma, both clinically and radiologically. There are three hypotheses for the disease: infection, hormonal and autoimmune disorder, being the latter the most accepted one. **Objective**: To report the case of SFI, female, 34 years of age, Caucasian, non-lactating, without family history of breast cancer, diagnosed with autoimmune granulomatous mastitis. **Method**: Case report based on medical records and in agreement with the signed informed consent form. In 2017, the patient presented with trauma in the right breast, and after eight months, local lesion and mastalgia. In the physical exam, we observed one-sided mammillary retraction, periareolar hyperemia, signs of fluctuation, pain at superficial palpation and palpable lymph nodes. The ultrasound showed fluid collection of 25x6 mm, with thick content, irregular walls in the upper medial quadrant, with an area close to the skin in the periareolar region; two smaller collections measuring 4 to 6 mm in the retroareolar region; without solid nodules. After surgical drainage, the sample indicated chronic granulomatous inflammation; analysis of fungi and acid-alcohol-resistant bacilli were negative, and malignancy was not present. Then, she was started on Prednisone, 80mg/day. However, after the onset of a new inflammatory condition, a weekly 15mg dose of Methotrexate was associated. In the following month, being clinically stable, Methotrexate was suspended, and the dose of Prednisone was gradually reduced, until its suspension. She did not present with acute mastitis or abscess. The patient persisted with palpable granulomas in all quadrants, and major complications with mastalgia, which became incapacitating. A new attempt of immunosuppressive therapy was made, but had no success against mastalgia, as well as the use of Tamoxifen and Cabergoline. **Results and Conclusion**: Due to clinical untreatability and the patient's wish, the choice was to perform skin-sparing mastectomy and immediate prosthetic reconstruction. Even though the ideal treatment is still uncertain, due to its unknown etiology, clinical follow-up is important, even after the surgical excision of the nodule, because of the chance of recurrence and slow resolution.

ADVANCED DISEASE TREATMENT

STAGE IV BREAST CANCER SURGERY. CASE SERIES

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Introduction: Distant site tumor implantation implies a severe condition, stimulated by an additional genome evolution that compromises the survival (6 months in the visceral metastasis). The literature is still controversial, and the guidelines recommend surgery only as palliative care. New results are conflicting, however, the initial modern systemic therapy, followed by the resection of the primary tumor, seems to improve the global survival (GS). "De Novo Metastasis (MT)" is that found in the diagnostic investigation. **Objective:** To assess the results of the primary metastatic breast cancer (BC) surgery. **Method:** retrospective review of medical records in a cohort of patients with metastatic BC treated between 2011 and 2018 in the state of Rio de Janeiro. **Result:** Eleven patients were included. (Group A= 6 patients with De Novo MT, and Group B= 5 patients with MT in the follow-up). In both cases, invasive ductal carcinoma was prevalent, frequently of grade 3 and with high Ki-67, Luminal B and Her-2. There was a mutation (BRCA2), and the PET CT was correlated to the complete pathological response. In group A, the patients were younger (50% <40 years old), 5/6 initiated neoadjuvant chemotherapy (NACT), all underwent mastectomy (multicentricity or size), 33% presented with imaging and pathological complete response (pCR). Of the MT, 50% were in the bone; 1/6 had negative and operated liver and pulmonary MT (HER-2), with disease-free survival (DFS) superior to 12 months. In group B, all MTs came after local recurrence (LR) (between 3 and 11 months); 40% had high initial axillary compromise (pN= mean of 25), and Luminal B, being treated according to the guidelines. In 2/5 (40%) of visceral MT, 18 months of DFS were observed after pCR and primary tumor resection. Finally, in the follow-up (mean of 42 months), there were two casualties (TN) in group A, and 4/6 presented DFS between 17 and 72 months. In group B, 3/5 presented DFS between 12 and 24 months. **Conclusion:** In this sample, the pathological complete response suggested better prognosis before surgery. There was benefit in the survival of visceral MT (including multiple ones) with pCR and breast surgery in comparison to the literature; further studies are required, considering the limitations of this analysis.

EVALUATION OF PATHOLOGICAL COMPLETE RESPONSE IN PATIENTS WITH BREAST CANCER SUBMITTED TO NEOADJUVANT CHEMOTHERAPY AND SURGERY IN HOSPITAL DO CÂNCER DO MATO GROSSO

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This study aims at comparing the pathological complete response rate of women submitted to neoadjuvant chemotherapy for breast cancer in the world with the community from Hospital do Câncer do Mato Grosso, to verify which histological subtypes have higher chances of reaching the pathological complete response. Therefore, we will analyze the medical records of the patients who underwent neoadjuvant chemotherapy followed by surgery. Besides the initial clinical staging from I to III between 2014 to 209. The criteria in RECIST 1.1 were used (Response Evaluation Criteria in Solid Tumors) to define pathological complete response for the breast and the axilla. We concluded that the benefit of neoadjuvant chemotherapy is mostly seen in patients with negative hormone receptors and positive HER2, and they have higher chances of reaching pathological complete response. In the triple negative subtype, neoadjuvant chemotherapy with the objective of reaching pCR is, until this moment, the best strategy for higher survival rates in these patients, according to data from the global literature.

EVALUATION OF AXILLARY RESPONSE TO NEOADJUVANT CHEMOTHERAPY IN LUMINAL BREAST CARCINOMA TREATED IN CAISM-UNICAMP BETWEEN 2013 AND 2018

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Introduction: Breast cancer is the most common malignant neoplasm affecting the female gender (besides non-melanoma skin cancer). It is a heterogenous disease with different phenotypic subtypes; the most common subtype is the luminal-like, which presents poor response to neoadjuvant chemotherapy. If patients with positive axilla at diagnosis are submitted to surgery, axillary dissection must be carried out, which is a surgery with major morbidities; however, if the patients are treated with neoadjuvant chemotherapy and develop negative axillary disease, they can avoid axillary dissection. **Objective:** to assess axillary response to neoadjuvant therapy in patients with cT1-3 cN1-2 luminal-like breast cancer. The secondary objectives were to assess the association between the axillary response to neoadjuvant chemotherapy according to: tumor replication marker (Ki67), estrogen and progesterone receptors (ER and PR), tumor histological grade, according to the Nottingham classification, tumor size (cT), level of axillary compromise (cN1, cN2 or cN3), chemotherapy scheme, luminal subtype and epidemiological variables (age, BMI, menopause status). **Method:** reconstituted cohort including female patients diagnosed with invasive breast cancer stage cT1-3 cN1-2 M0 at physical or ultrasound examination, who received neoadjuvant chemotherapy. Axillary compromise can be assumed. The patients were followed-up at the ambulatory of Clinical Oncology and Mastology at CAISM UNICAMP. A convenience sample was used. **Statistical analysis:** Statistical analysis will be carried out using the Statistical Package for the Social Sciences, version 22.0 (SPSS). Correlations between categorical variables will be analyzed with the chi-square test. Differences between means will be verified using Student's t-test. Nonparametric tests will be used according to necessity. All tests will be bicaudal, with 5% as the threshold of statistical significance. **Results:** One hundred and forty three cases were included, respecting the inclusion criteria. Of these, 2.8% evolved with pathological complete response per se (pCR); 5.6%, with pCR in the breast; and 23.1%, with axillary pCR. The lower the axillary compromise at diagnosis, the higher the frequency of axillary pCR (cN1 26.7%, cN2-3 11.1% - p=0.049). The smaller the residual lesion in the breast after chemotherapy (ycT), the higher the chances of axillary pCR (ycT0 28.8%, ycT1 38.5%, ycT2 9.7%, ycT3-4 0 cases – p=0.042). The anthropometric, immunohistochemical and anatomopathological parameters did not present statistical relevance. **Conclusion**: Patients with luminal-like breast cancer and axillary compromise at diagnosis may benefit from avoiding dissection in about 20% of the time if treated with neoadjuvant chemotherapy, so this therapeutic strategy should be considered in these cases.

ROLE OF FAT GRAFTING IN LATE BREAST RECONSTRUCTION AFTER FAILURE OF IMMEDIATE BREAST RECONSTRUCTION WITH IMPLANTS – EXPERIENCE OF HOSPITAL DE CLÍNICAS IN PORTO ALEGRE

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Introduction: The breast reconstruction techniques with tissue expanders and silicone implants were the most used ones in the past decade. Immediate post-mastectomy reconstruction can evolve to loss of implants, causing significant morbidity to the patients. The knowledge of techniques that use fat grafting has allowed the use of more late reconstruction techniques. **Objectives:** To assess the application of fat grafting in late breast reconstruction in patients submitted to mastectomy with immediate reconstruction, who presented loss of implant (expanders and prostheses). **Method:** Cross-sectional study carried out through data collection in electronic medical records. We selected patients from the Mastology Service in HCPA, submitted to immediate breast reconstruction with expanders/prostheses in the period from May/2000 to May/2019. **Results:** We analyzed 241 cases of mastectomy with immediate breast reconstruction based on implants – 127 (52.7%) expanders and 114 (42.3%) direct prosthesis. In 24 cases (10.0%), there was loss of implants. Among these 24 patients, 20 (83.3%) had not undergone radiotherapy before mastectomy, and 4 (16.7%) had been submitted to previous radiotherapy. Of these, in 18 cases (75.0%), late reconstruction was performed: 3 cases (20.8%) of reconstruction with rectus abdominis flap (TRAM), 4 cases (23.4%) of reconstruction with latissimus dorsi muscle flap (LD), 1 case (5.5%) of fat grafting with flap planning, 6 cases (33.6%) of exclusive flap grafting, and 4 cases (23.4%) of expander/prosthesis after the plastron fat grafting. **Conclusions:** Breast reconstruction after the loss of expanders/prosthesis can be carried out through several surgical techniques. The knowledge of the mastologist about the different techniques aims at providing the best choice to be used, according to the individual risk profile of each patient. Plastron fat grafting after loss of implant is an important ally in late reconstruction, improving the local conditions and allowing, in our sample, the prevention of the indication of flaps 57% of the time.

ASSESSMENT OF PROGNOSIS IN PATIENTS WITH INVASIVE BREAST CANCER AND METASTATIC SENTINEL LYMPH NODE TREATED WITH OR WITHOUT AXILLARY LYMPHADENECTOMY

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Introduction: The American College of Surgeons Oncology Group (ACOSOG) Z0011 trial was a landmark in axillary surgical treatment. Its results brought significant contributions to the reduction of the extension of breast cancer surgery. However, this approach was questioned at first. **Objectives:** To assess the global survival and the locoregional recurrence in patients with metastatic sentinel lymph node biopsy treated with or without axillary lymphadenectomy (AL). **Method:** A historical cohort study was carried out with patients with primary invasive breast carcinoma and clinically negative axilla who underwent breast-conserving surgery and SLNB between February 2008 and December 2018. **Results**: We included 415 patients who were submitted to conserving surgery. In 23.3% (97 patients), SLNB was positive, 56 patients were submitted only to SLNB, and 41 patients were treated with AL. The groups were homogeneous regarding the variables: age group (p=0.279), anatomopathological diagnosis (p=0.210), histological grade (p=0.983), hormone receptor expression (p=0.708), HER 2 expression (p=0.695) and pT (p=0.334). Global survival, in the mean period of 5 years, was 80.1% in the SLNB group, and 87.5% in the AL group (p=0.376). The locoregional recurrence was a rare event; in the mean period of 5 years, there was 1.8% in the SLNB group, and 7.7% in the AL group (p=0.196). Only 4 locoregional recurrences were described, and all took place in up to 18 months of follow-up. **Conclusions**: Global survival and locoregional recurrence in patients with metastatic axillary sentinel lymph node treated only with sentinel lymph node biopsy did not present differences in relation to patients who underwent axillary lymphadenectomy, which corroborates the data from ACOSOG Z0011. The omission of axillary lymphadenectomy and the implantation of such a practice in our service benefitted the patients treated with less aggressive surgery, and, potentially, with lower morbidity.

DENSITY OF SURGICAL SPECIMENS AND CORRELATION WITH CLINICAL CHARACTERISTICS OF WOMEN SUBMITTED TO MASTECTOMY: THE ARCHIMEDES PROJECT

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Introduction: Breast cancer is the second most common neoplasm among women, being responsible, per year, for 60 thousand new cases of breast cancer in Brazil. The treatment varies according to staging, and mastectomy is indicated in cases in which conserving surgery it is not possible. Mastectomy patients who do not present with indication for breast surgical reconstruction may have self-esteem problems, and external prostheses are one of the means to recover body image. Despite being an external, relatively simple device, external prosthesis may lead do pruritus, pain, paresthesia and postural changes. Therefore, the objective of this study is to describe the density of the female breast to serve as a base to improve these prostheses, considering that the current literature lacks studies to establish this parameter. **Objectives:** To determine the density of the female breast and correlate it with the clinical and epidemiological characteristics and the treatment. **Subjects and Methods:** This is a descriptive study that measured the mass and volume of 100 mastectomy specimens to calculate density, with correlation to factors such as age, parity, menstrual factors. Determination of frequencies, means and standard-deviation of the variables, with risk assessment, was carried out with the chi-square or the Fisher's exact test for the expected values lower than 5, as well as the log-binomial model between the variables using the prevalence ratio with 95% confidence interval (GraphPad®, available at https://www.graphpad.com/quickcalcs/contingency2/). We considered $p<0.05$ as significant, and confidence intervals (CI) were established at 95%. **Results:** Of the 100 women included in this study, 78% were white, mean age was 58 years (300-94 years), mean age at menarche was 13 years, and mean age at menopause was 49 years. Of the women submitted to mastectomy, 39% were in their reproductive years. Mean density of the mastectomy specimens in this study was $1.23 \, \mathrm{g/cm^3}$. There was statistically significant correlation regarding the difference in the density of the specimens in patients with Body Mass Index (BMI)>30 in relation to the density of the specimens in patients with BMI<30. In this aspect, we found lower density associated with BMI>30 ($p=0.0025$). **Conclusion:** unlike what we found in the literature, the mastectomy specimens are approximately 20% denser in relation to water and silicone, which are commonly used materials in internal and external prosthesis. This reference can collaborate with the development of prosthesis that are more similar to the natural breast, better adjusting to the daily life of women, with fewer side effects and better quality of life.

INJURY IN AXILLARY THORACIC DUCT

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Introduction: In adults, the lymph flow through the thoracic duct presents about 4 liters a day; therefore, its injury may lead to accumulation in the pleural cavity, causing acute and chronic changes in pulmonary function. However, if less frequent, such an accumulation can still be observed in surgery, as was the case of the patient reported in this study. The injuries are not so frequent and may be caused by neoplasms or during surgical procedures in in the thoracic region and trauma, such as esophagectomy, mediastinal and pleuropulmonary surgeries. The early recognition and adequate therapy for the fistula in the thoracic duct prevent secondary nutrient and lymphocyte depletion. Clinical diagnosis is mostly based on high chest drain output, accompanied by the milky aspect. Besides, computed tomography, lymphoscintigraphy and lymphoangiography are possible methods for diagnosis. The clinical series about injuries in the duct after thoracic surgeries report that 25% to 50% of the cases present the spontaneous closure of the fistula only with conservative measures, such as the introduction of parenteral nutrition or enteral diet with medium-chain triglycerides. The persistence of the fistula leads to the need for clinical-surgical treatment. **Objective:** To report the case of rare post-surgery complication in a patient submitted to modified radical mastectomy (left) with immediate breast reconstruction. **Results**: Forty-eight year old woman born in Santana do Parnaíba – SP, diagnosed with left-breast cancer, invasive breast carcinoma histological type, Luminal B, submitted to modified radical mastectomy (left) (Madden technique), with immediate breast reconstruction. The intraoperative period showed major impairment in left axillary lymph nodes involving lymph vessels and nodes. In the postoperative period, she presented high drainage in the suction drain, with milky aspect, in the left axillary region. Then came the hypotheses of surgical complications, such as secondary infection, seroma, and thoracic duct injury, or in some branch. The biochemical analysis of the milky fluid showed high concentration of triglycerides, and cytology described the presence of proteinaceous material and macrophages. A conservative conduct was chosen, with adjustment of hyperproteic, hypoglycific diet, rich in medium-chain triglycerides. Twenty days after tha diagnostic hypothesis, the patient underwent lymphoscintigraphy, which did not show the fistula. She evolved with gradual output reduction until the removal of the drain, and was discharged from the hospital in good conditions. At the time, the patient continues with the adjuvant treatment for breast neoplasm. **Conclusion**: Post-surgical lymphatic fistula in the axillary region is a rare complication; however, its early diagnosis and treatment is essential in order to prevent complications, such as malnutrition and worsened immunological status.

LEVEL OF SURGICAL REAPPROACH IN REFERENCE WOMEN'S HEALTH UNIT

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Globally, breast carcinoma is the most commonly diagnosed cancer and the main cause of death by cancer among women. Its treatment requires a multidisciplinary approach, involving radiotherapists, oncologists and surgeons. Despite the advancements in therapy, surgery still plays an essential role in the treatment. A postoperative complication rate is expected, which ranges according to the type and extension of the procedure. The quality of surgical approach is mirrored by the measurement of direct results, such as morbidity and mortality of the patient. There are some indicators of quality that are usually used to assess a service, such as rate of complications, time of hospitalization, patient's satisfaction and rate of reoperation. **Objective**: To assess the surgical reapproach rates in a reference women's health unit – Hospital Pérola Byington (CRSM), comparing them with the data observed in a literature review from major global institutions. **Methods**: Literature review of retrospective studies carried out in major institutions and data from CRSM. **Results**: The main complications that lead to surgical reapproach include bleeding, infection, seroma, problems in the injury, matters related to reconstruction and others. From the CRSM database, of a total of 8,806 analyzed patients, about 48.2% were submitted to conserving surgery (CS), and 51.8%, to mastectomy (MASTE). The rate of reoperation in CRSM in the past 8 years is 1.82%. By confronting these data with the data review of ACS-NSQIP, we identified that patients submitted to MASTE with immediate reconstruction (IR) were more prone to undergoing a reoperation due to complications (6.8%) in comparison to patients who underwent MASTE without IR (2.8%) or CS with or without pedicular rotation (2.4% and 0.7%, respectively); the general rate of reoperation was 4.2%. **Conclusion**: Even though the rate is low, considering the high number of surgeries carried out in the service, it is necessary to maintain the complication rates to a minimum. The possible causes for the significantly reduced volume of reapproaches in CRSM should be considered: The imaging team is prepared, allowing a more accurate location of tumor beds, for example, the department of non-palpable lesions (NPL), which is responsible for mammotome clip and needling. This allows the signaling of a tumor bed, before and/or after being submitted to neoadjuvant chemotherapy (NEO CT); number of MASTE being higher to the number of CS, therefore, with fewer chances of residual tumor in the tumor bed. Usually, patients arrive to our unit at an advanced tumor clinical stage, therefore, with indication for MASTE; presence of pathologists in the surgical unit available at the time of the procedure, therefore, intraoperative freezing, which allows to increase margins in the same surgical period, preventing reapproaches; Multidisciplinary team, including NEO CT. Integrated care protocols can significantly reduce the rates of postoperative complications.

INDICATONS FOR ADENOMASTECTOMY IN THE PAST 10 YEARS: WHAT HAS CHANGED THE DECISION OF THE SURGEON?

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Introduction: Adenomastectomy (AM) consists of the almost complete removal of the mammary gland, but preserving the skin envelope and areolar-papillary complex (APC). This technique was initially indicated to women with family history of breast cancer and for treating fibrocystic breast disease. Currently, it can be carried out in a prophylactic manner in patients with genetic mutations associated with higher risks of breast cancer, and in a therapeutic manner for the treatment of tumors smaller than 3 cm, which are peripheral or more than 2 cm away from the APC, with negative retroareolar margin intraoperative freezing. Among the advantages of keeping the APC in AM are the cosmetic results, which favor self--image and self-esteem. **Objectives**: to assess the incidence of prophylactic AM (PAM) and therapeutic AM (TAM) and relate the PAM with the presence of family history of neoplasms, genetic changes that present high risk for breast cancer or desire of the patient (absence of these criteria). **Methods:** retrospective study of patients submitted to AM at A.C. Camargo between 2007 and 2017. **Results**: two-hundred and ninety patients were included, of which 77 were submitted to bilateral AM (154 AM), and 213 patients, to unilateral AM, accounting for 367 AM. Between 2007 and 2009, 116 PAM and 20 TAM were performed; between 2010 and 2013, 40 PAM and 32 TAM; and between 2014 and 2017, 71 PAM and 88 TAM. The indications of PAM were: between 2007 and 2009, 7 PAM were owed to pathogenic mutations, 50 were due to "family history of high risk", and 58 due to the patient's desire; between 2010 and 2013, 14 were caused by pathogenic mutations, 12 by "family history of high risk", and 14 by the patient's desire; between 2014 and 2017, 45 were owed to pathogenic mutations, 18 to "family history of high risk", and 8 to the desire of the patient. **Conclusions**: it is observed that between 2007 and 2017 there was a progressive increase in the incidence of TAM, especially after 2010; simultaneously, there was a reduction in PAM, and they were finally equivalent in 2017. It is possible to observe that the reduction in the incidence of PAM in the first triennium was owed to the reduction in indications of PAM, based only on family history or on the patient's desire. The recapture of PAM occurred with the increasing number of diagnosis of hereditary syndromes. At the end of the decade, most of the PAMs were performed due to the presence of pathogenic mutations, as advised by NCCN.

ADENOMASTECTOMY WITH IMMEDIATE RECONSTRUCTION FOR THE TREATMENT OF INVASIVE TUMORS: COMPLICATIONS AND ONCOLOGIC SAFETY

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Introduction: Adenomastectomy, also called nipple-sparing mastectomy (NSM), consists of the surgical excision of all mammary gland tissue, with preservation of the skin and the nipple-areolar complex (NAC). In the past few years, different authors have been showing oncologic safety with the use of NSM, with similar recurrence and survival rates when compared to the total mastectomy technique. Besides, patients submitted to NSM present better aesthetic results and quality of life. This study aims at assessing the postoperative complications and local recurrence rates of patients with invasive breast cancer submitted to NSM with immediate reconstruction. **Methods**: This retrospective study collected data from patients with invasive tumors, submitted to NSM with immediate reconstruction, performed by the authors between 2001 and 2017 in Hospital São Lucas, at PUCRS (HSL), Hospital Moinhos de Vento (HMV), and Hospital Israelita Albert Einstein (HIAE). **Results**: a total of 198 patients diagnosed with invasive breast tumors were submitted to 374 NSM. Bilateral surgeries were performed in 176 patients, being 7 (4%) patients diagnosed with bilateral invasive tumors; 8 (4.5%), with ductal carcinoma in situ (DCIS) in the contralateral breast; 15 8.5%) with atypia and/or lobular carcinoma in situ (LCIS); and 146 (83%) patients who underwent risk-reducing surgery in the contralateral breast. Mean age of the patients was 45.3 years. Sentinel lymph node biopsy (SLNB) was performed in 143 (72.2%) patients, and 25 (17.5%) presented with positive lymph nodes. Twenty (10.1%) patients were submitted to SLNB, followed by axillary lymph node dissection, and 35 (17.7%) underwent axillary lymph node dissection. Assessing the molecular subtypes, 65 (32.9%) tumors were luminal A; 71 (35.8%), luminal B; 20 (10.1%), luminal B/positive Her2; 15 (7.6%), positive Her2; and 27 (13.6%), triple negative. In the 374 performed NS, it was possible to observe 25 (6.6%) postoperative complications, 10 (2.6%) infections, 2 (0.5%) hematomas, 5 (1.3%) partial necrosis of the NAC, 8 (2.2%) cases of dehiscence. After a mean follow-up time of 50 months, of the 198 patients who underwent NSM to treat cancer, 11 (5.5%) presented local recurrence, being only 3 (1.5%) recurrences in the NAC. **Conclusions**: After assessing all NSMs with immediate reconstruction carried out for the treatment of invasive cancer, only 6.6% presented postoperative complications. The rates of partial necrosis of the NAC (1.3%) and infection (2.6%) were low in comparison to findings from other authors. Besides, the local recurrence rates of 5.5% and 1.5% in NAC in patients submitted to NSM with immediate reconstruction for the treatment of invasive breast cancer are in accordance with the previous literature. These results show the oncologic safety of this procedure as a surgical therapeutic choice for the selected patients, demonstrating even lower rates of partial NAC necrosis.

RISK REDUCING MASTECTOMY IN PATIENTS WITH BRCA MUTATION: INITIAL EXPERIENCE

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Introduction: There are no randomized studies that assess the role of risk-reducing mastectomy in decreasing the mortality of mutated patients; however, major prospective studies show a decrease in the incidence of breast cancer. The absolute reduction in the risk of breast cancer ranges from 2% to 7%, but the reduction of the risk of developing breast cancer is higher than 90%. The increasing mortality caused by contralateral breast cancer in the mutated patient is 1.7%, in 10 years, and 6.8%, in 20 years. **Objectives**: To analyze the cases of risk-reducing mastectomy in patients with BRCA mutation. **Method**: This is a retrospective study. We included all patients who had positive BRCA mutation test, assisted from 1999 to 2019. The study was approved by the Research Ethics Committee of Universidade Federal do Piauí, report n. 2.817.502. **Results**: We studied 23 patients who had a mutation in the BRCA gene, being 15 (65.2%) in BRCA 1, and 8 (34.8%) in BRCA 2. All participants were female, with mean age of 46 years, and mean of three cases of cancer in the family. Seven (30.4%) risk-reducing bilateral or contralateral mastectomy procedures were performed. The mean age at the performance of surgery was 38 years. There were six cases of previous breast carcinoma in one of the breasts, and one patient who had not been diagnosed with breast cancer. All of them were submitted to immediate reconstruction with inclusion of a silicone prosthesis. Laparoscopic bilateral salpingo-oophorectomy was performed in three patients. The histological type in the six patients with cancer was invasive carcinoma of no special type, being four triple negatives. Neoadjuvant chemotherapy was performed in four cases; in 6 cases, the mutation was in BRCA1. All patients remain without complains and free of disease, with mean follow-up of 29.5 months. Twelve (52.1%) patients are being followed-up with mammography, resonance and annual clinical examination, and did not accept risk-reducing mastectomy or salpingo-oophorectomy. **Conclusions**: Risk-reducing mastectomy was performed in 30.4% of the patients with deleterious mutation of BRCA. The main mutation was BRCA, and in 85.7% of the cases, the patient presented with previous breast cancer in one of the breasts.

RISK-REDUCING ADENOMASTECTOMY: SERIES OF 124 PROCEDURES CARRIED OUT IN BRAZILIAN PATIENTS

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Objective: Women with mutations in breast cancer predisposition genes have a significantly higher lifetime risk of developing breast cancer and can opt for risk-reducing mastectomy. Women with positive family history of cancer can also opt for prophylactic surgery as a preventive method in selected cases. Current studies showed reduced risk of developing breast cancer after prophylactic nipple-sparing mastectomy; however, despite the good clinical outcomes, one of the main concerns regarding nipple-sparing mastectomy (NSM) is the oncologic safety and nipple-areola complex preservation. In this study, we aimed to evaluate the indications, complication rates and unfavorable events of 62 Brazilian patients who underwent 124 risk-reducing NSM from 2004 to 2018. **Methods:** Patient data was reviewed retrospectively and descriptive statistics were utilized to summarize the findings. **Results:** The mean patients' age was 43.8 years. The main indication for risk-reducing NSM was the presence of pathogenic mutation (53.3%), followed by atypia or lobular carcinoma *in situ* (25.8), and family history of breast cancer and/or ovarian cancer (20.9%). There were four (3.2%) incidental diagnosis of ductal carcinoma *in situ* and one invasive ductal carcinoma (0.8%). From the 124 prophylactic NSM performed, two (1.6%) complications occurred: one (0.8%) infection and one (0.8%) partial nipple necrosis. In a mean follow-up of 50 months, there was one (1.6%) newly diagnosed breast cancer in the 62 patients undergoing prophylactic NSM. **Conclusions** Our findings demonstrated efficacy and safety to perform NSM as prophylactic surgery with good oncologic outcomes and low complication rates in a case series of Brazilian patients.

ROBOTIC ADENOMASTECTOMY: FOLLOW-UP OF OPERATED CASES

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Introduction: For the past few years, Nipple-Sparing Mastectomy (NSM) has been a tendency, and robotic breast surgery has become a reality. Until August, 2019, three robotic adenomastectmy procedures were carried out in Hospital Erasto Gaertner. The objective of this article is to demonstrate our results and publicize the knowledge in robotic surgery. **Methods:** Surgical Technique. The Da Vinci Surgical System Si® (Intuitive Surgical, Sunnyvale, CA) was used to perform the NSM surgeries. The 3 cm long incision was initiated in the axillary region, and the subcutaneous cellular tissue was resected to an area of 5 cm in diameter, to the portal. One mg/ml of adrenaline diluted in physiological serum 0.9% was infiltered in the subdermal breast tissue. Tunneling is executed with Metzenbaum scissors in the subdermal region. The device is coupled (GelPOINT Advanced Access Platform™), and gas pressure of 8 mmHg is activated. The ProGrasp Forceps, the monopolar curved scissors and the 30º video camera are allocated in the robotic arms. The upper quadrants are superficially dissected, and then the lower quadrants, the retro-mammillary region and, finally, the breast muscle tissue. The expander is allocated between the chests with the open technique. **Result:** The duration of the mammary gland extirpation was 5 hours in the first unilateral adenomastectomy surgery, and 1 hour and 45 minutes in the last for the same type of surgery. In total, the first surgery took 6 hours and 20 minutes, which reduced to 3 hours in the last. In two surgeries we observed skin burns caused by electrocautery. These were solved in weeks, however, without the need for surgical intervention. We did not observe complications such as seroma, hematoma, loss of prosthesis, major pain, infection or subcutaneous emphysema due to carbon dioxide. **Discussion:** Complication rates are low, as shown by Lai et al. (2019), who analyzed a case series and showed transient nipple ischemia (10.3%) as the highest rate of complication; however, without nipple necrosis or loss of prosthesis. In the cases operated in Hospital Erasto Gaertner, the aesthetic results were very well evaluated both by the patients and the plastic surgery and mastology staff. Minor complications were solved in weeks, which maintained an excellent final outcome. The learning curve of the robotic technique was extremely fast, with considerable reduction in surgical time. **Conclusion:** We believe that innovative robotic surgery can contribute with the advancement of breast surgery around the world.

INCIDENCE OF AXILLARY RECURRENCE AFTER NEGATIVE SENTINEL LYMPH NODE BIOPSY IN A RETROSPECTIVE COHORT OF BREAST CANCER PATIENTS

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Introduction: Breast cancer is the second most common cancer in the world, and the most common among women, spreading especially to the axillary lymph nodes. The axillary status is the main prognostic factor, and the sentinel lymph node biopsy (SLNB) technique is incorporated to surgical treatment. **Objectives**: To analyze cases of recurrence in patients with breast carcinoma after being submitted to negative SLNB. **Methods**: Observational, retrospective study carried out from 1999 to 2019 in a clinic in Teresina. We analyzed the cases of axillary recurrence after negative SLNB in a cohort comprised of 459 patients. The study was approved in the Research Ethics Committee, report n. 2.817.502. **Results**: There were two cases of axillary recurrence after negative SLNB. CASE 1: 77 year-old patient with infiltrating carcinoma of no special type in the left breast, measuring 2.2 cm (T2N0M0) - IIA. She was submitted to sectorectomy with SLNB, which was negative. Immunohistochemical: ER+, PR-, HER2 -, P53+, KI-67+ 70%, luminal B. She received radiotherapy on the breast and did not undergo hormone therapy. After four years, she presented local recurrence and was treated with segmental resection and axillary lymph node dissection. The histological analysis of the surgical specimen showed infiltrating carcinoma of no special type, measuring 1.5cm, with perineural invasion, and 4 axillary lymph node without neoplasm. She received adjuvant hormone therapy with tamoxifen. The patient was followed up for 40 months after the procedures and was free of disease, and then she was no longer being followed-up. CASE 2: 50-year old patient with invasive lobular carcinoma (right breast), submitted to sectorectomy with negative SLNB. She received postoperative radiotherapy and hormone therapy. Immunohistochemical: ER+ 90%, PR+ 90%, HER2-, KI-67+ 60%. After two years of follow-up, she presented with right axillary recurrence, and underwent axillary lymph node dissection, with 13 resected lymph nodes, of which one presented metastasis. She began on hormone therapy with anastrozole. Nowadays, 37 months after surgery, she has no evidence of recurrence. Conclusion: In this study, the rate of axillary recurrence after negative SLNB was 0.43%.

BREAST CANCER IN PATIENTS WITH BRCA MUTATION: CASE SERIES

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Introduction: Women who inherit a deleterious mutation in BRCA face substantially increased risks of developing breast cancer, estimated in 70%. Even though the annual screening with magnetic resonance and mammography promotes the early detection of the disease, the gold standard for the primary prevention of breast cancer is still bilateral mastectomy. **Objectives**: To characterize breast cancer with mutation in the BRCA gene. **Method**: This is a retrospective study, case series. We included all patients who had tested positive for BRCA mutation and who had a previous or current diagnosis of breast cancer from 1999 to 2019. The study was approved by the Research Ethics Committee of Universidade Federal do Piauí, report n. 2.817.502. Results: We found 10 patients with previous breast cancer, or at the time when they had a mutation in the BRCA gene. They were all female, with mean age of 39.4 years at diagnosis, average of 3.6 cases of cancer in the family. Five (50.0%) were triple negative tumors, mean size of 6.7cm, 9 invasive carcinomas, 2 stage IIIB, 3 cases with invasion and impairment of axillary lymph nodes. Three underwent bilateral salpingo-oophorectomy, and 6 underwent bilateral or contralateral risk-reducing mastectomy procedures. All patients were submitted to chemotherapy, being 6 neadjuvant and 5 associated with radiotherapy. As to type of mutation, 6 presented mutation for BRCA1, and 4 for BRCA2. Two patients died because of the disseminated disease. Only one patient is still being followed-up, after 29 months, with annual mammography, resonance and clinical examination, and did not accept risk-reducing mastectomy or salpingo--oophorectomy. **Conclusions**: The mean age of breast cancer diagnosis was 39.4 years. Half of the patients were triple negative, and most had mutation in BRCA1. Two patients died because of the disseminated disease.

IMMEDIATE BREAST RECONSTRUCTION WITH DEFINITIVE PRE-PECTORAL PROSTHESIS AFTER NIPPLE SPARING MASTECTOMY THROUGH INFRAMAMMARY FOLD WITHOUT USING AN ACELLULAR MATRIX: RESULT OF 130 CASES

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Introduction: Breast reconstruction with prosthesis after mastectomy is currently the main reconstruction technique used in the world. The pre-pectoral prosthesis is progressively being more used, and has advantages in relation to the submuscular prosthesis, such as less pain in the postoperative period, decreased muscular deficit, breast animation, better aesthetic result, besides reducing the time of surgical morbidity, for being easier to execute. **Objectives:** To review the results and complications of patients submitted to breast reconstruction with definitive prosthesis without using an acellular matrix (ADM). **Methods**: Retrospective study including patients who underwent immediate reconstruction with pre-pectoral definitive prosthesis after nipple sparing mastectomy (NSM), with incision through the inframammary fold (IMD), without using ADM, between January, 2018, and July, 2019. We collected demographic data, types of therapy and surgical data. The complications and secondary surgical interventions were also assessed. The Fisher's Exact Test was used for statistical analysis (p lower than 0.05). **Results**: During the study period, 130 reconstructions were performed in 87 patients. Mean age was 43 years. Thirty two mastectomy procedures (24.6%) presented at least one complication, and the most common ones were: flap necrosis (N=13), persistent seroma (N=10), and prosthesis exposure (N=9). Of this total, 21 were submitted to a new surgical procedure, and 12 (9.2%) evolved with loss of prosthesis in an average of 64 days (12 to 180 days) after the first surgery. The main risk factors associated with loss of prosthesis were smoking (OR 4; 1.48-10.8) and BMI higher than 25 (OR 4.4; 1.24-15.6), both with statistical significance (p<0.05). The presence of previous radiotherapy (42.8% x 21.5%) or adjuvant therapy (37.5% x 21.5%) and diabetes mellitus (42.9% x 23.6%) show a tendency to higher chances of complications, however, these were not statistically significant. The other assessed factors did not present correlation with the complications. Regarding the late aesthetic result, we only assessed the patients who were followed up for more than 6 months. Of the 52 breasts, 69.3% did not present capsular contracture, and 28.8% presented contracture in Grades I or II of the Baker scale. Rippling was identified in only 13 breasts (25%). There was no prosthesis dislocation or breast animation. **Conclusion**: Breast reconstruction with definitive pre-pectoral prosthesis after NSM using IMD is a promising, safe and economically advantageous technique, presenting results and complications similar to the cases that use ADM or place the retromuscular prosthesis.

RADIOTHERAPY

ELABORATION OF A CLINICAL-SURGICAL MODEL OF SPARING RADIOTHERAPY OF PECTORAL MUSCLES AND ANTERIOR THORACIC WALL IN PATIENTS SUBMITTED TO SKIN AND NIPPLE PRESERVING MASTECTOMY WITH IMMEDIATE BREAST RECONSTRUCTION

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Introduction: The rates of adenomastectomy with immediate breast reconstruction (IBR) in patients with breast cancer (BC), in its early stage, are increasing. Lately, the number of patients who undergo radiotherapy (RT) in this scenario has also increased, since patients submitted to mastectomy who present a compromised axillary lymph node already can have clinical benefits from RT. The routine irradiation of muscles in the anterior thoracic wall generates many complications in patients submitted to mastectomy with IBR. In the literature, the local recurrence rate in the general muscle is of approximately 0.6%. The essential point that comes to light is that the 0.6% recurrence rate justifies the routine irradiation of the major pectoral muscle in patients who underwent mastectomy with IBR. The selection of initial BC tumors distant from the major pectoral muscle can eventually spare the pectoral muscle in the planning of the target volume in RT, thus considerably reducing the postoperative complication rates, such as capsular contracture. The ESTRO (European Society for Radiotherapy and Oncology) guidelines recommend sparing the major pectoral muscle, considering the anterior surface of the major pectoral muscle as the dorsal edge in the planning of the target volume of the thoracic wall. The recommendation is: unless the invasion has been demonstrated (tumor stage T4a and T4c), there is no reason to include the major pectoral muscle and the ribs in the thoracic wall in the routine, while planning the target volume. In this context, we elaborated a new radiosurgery model called CHRISTMAS (Chest muscle spaRIng post-MAStectomy radiotherapy). **Objective**: To elaborate a clinical-surgical model of Sparing Radiotherapy of Major Pectoral Muscle and Anterior Thoracic Wall in patients submitted to adenomastectomy with IBR. **Methods**: We selected a patient with BR, clinical staging T1N1, more than 2 cm away from the major pectoral muscle, in the Mastology service of Hospital Tacchini. This patient was submitted to adenomastectomy with IBR with expander. Intraoperative radiotherapy with electrons was performed in the nipple-areolar complex, with posterior adjuvant RT of lymph chains through intensity-modulated RT (IMRT), sparing the tissue adjacent to the breast implant (pectoral muscle to nipple level, minor pectoral muscle and anterior thoracic wall). **Results**: The patient evolved without complications.This new technique has drastically reduced the irradiation rate of the tissue adjacent to the breast implant, besides lungs, pleura and heart. **Conclusion**: The CHRISTMAS radiosurgery model is technically viable, regarding logistics and radiotherapy planning, and is part of a research project of our institution, in which patients with indication for adenomastectomy, IBR and adjuvant RT with initial BC, distant from the pectoral muscle, will be randomized for conventional RT versus the CHRISTMAS model, comparing the complication and locoregional recurrence rates.

PREGNANCY-ASSOCIATED BREAST CANCER

GESTATIONAL GIGANTOMASTIA: A CASE SERIES

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Introduction: Gestational gigantomastia (GG) is a rare condition known for the massive growth of one or both breasts during pregnancy. **Objectives:** to describe three cases of GG in patients assisted Hospital de Clínicas do Paraná. **Case Reports:** Case 1 - Twenty-four year old pregnant woman, of 9 weeks, presented with mastalgia and increasing breast volume associated with phlogistic signs and orange peel-like skin. Breast ultrasound showed diffuse inflammatory process. A biopsy was performed and showed ductal ectasia and stromal fibroadenomatoid changes. On the 20th week, she was hospitalized with fever, voluminous breasts and drainage of purulent secretion and long ulcers in the inframammary fold. She was administered antibiotics and local care. The choice was to interrupt the pregnancy of 33 weeks. She presented with relative reduction of the breasts and breastfed, but had severe psychological problems caused by the aesthetic dissatisfaction. Case 2 - Eighteen-year old patient presented with infiltrating ductal breast carcinoma in the right breast, treated with sectorectomy, with sentinel lymph node and conventional radiotherapy. After one year of follow-up, ductal carcinoma in situ (DCIS) was diagnosed in the left breast, being submitted to sectorectomy and intraoperative radiotherapy. Two years after DCIS, she became pregnant and presented with GG only in the left breast, with remarkable asymmetry and skin edema. After the Cesarean section, breastfeeding was normal on the GG side, but not on the right side, due to a sequel from total radiotherapy. Case 3 - Twenty-two year old pregnant women, of 12 weeks, presented with mastalgia and exaggerated growth of the breasts, with and orange peel-like skin. Breast ultrasound showed bilateral inflammatory process. On the 15th week, she presented with bleeding ulcers, right breast with latero-lateral diameter of 48 cm, and craniocaudal diameter of 56 cm, and left breast with 49 cm and 58 cm, respectively. Due to the fast and progressive growth of the breasts, with difficulties to breath, major venous and lymph stasis and extensive skin ulceration/maceration, with risk of infection, the patient and relatives agreed on conducting a therapeutic abortion, followed by a reduction mammoplasty. **Discussion:** It is a rare disease, and its etiology remains unknown. Medicinal therapy seems to be first option, but it is often necessary to complement it with a surgical procedure. **Conclusions:** GG is a pathology of great morbidity, with tendency to recede in the puerperium. In case it is not possible to wait, the recommendation is to intervene in the pregnancy.

PREGNANCY-ASSOCIATED BREAST CANCER – CASE REPORT

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Introduction: Mammographic screening is recommended yearly after the age of 40; however, many pregnant women are younger and should undergo the test. In these cases, anamnesis and clinical examination of the breasts are essential to detect any breast change. In case of clinical suspicion, it is recommended to undergo mammography with abdominal protection, and breast ultrasound is the examination of choice to assess the extension of the injury and guide the percutaneous biopsy. Breast surgery is safe, and can be performed in the three trimesters of pregnancy. It is important to emphasize the importance of the type of surgery according to gestational age. The reference axillary surgery during pregnancy is axillary lymphadenectomy. However, some articles present the safety of the sentinel lymph node biopsy. The use of technetium (Tc-99m) with lymphoscintigraphy is an acceptable technique, with fetal exposure to radiation inferior to the teratogenic limit of 50 mGv. **Objective**: To emphasize the importance of mammary propedeutics during pregnancy. **Case report:** 37 year-old patient, primiparous, of 34 weeks, referred a nodule in the right breast for 1 year. She denies having family history of carcinoma. At clinical examination, she presented with turgid breasts, absence of palpable nodules and negative axilla. Current mammography with presence of architectural distortion in the inferolateral quadrant of the right breast, and ultrasound with irregular and spiculated 2 cm nodule, both BIRADS category 5. Percutaneous biopsy showed invasive breast carcinoma of no special type, histological grade 2, and immunohistochemical with positive hormone receptors (estrogen and progesterone receptor with 90%), negative HER2 and Ki 67 of 20%> The conduct was conserving surgery (excision of the breast injury and radio-guided sentinel lymph node biopsy) on the 36th week of pregnancy. The intraoperative assessment of the sentinel lymph node showed presence of macrometastasis and, as a consequence of the exclusion of pregnancy in the ACOSOG Z0011 study, the patient was submitted to axillary lymphadenectomy. The definitive anatomopathological result was invasive breast carcinoma of no special type, histological grade 3, measuring 2.1 cm, and 1 lymph node compromised by macrometastasis of 15 dissected nodes (pT2 pN1a). The multidisciplinary team chose to wait for delivery, from 2 to 4 weeks, and a Cesarean section was performed after 40 weeks of pregnancy. The chemotherapy was scheduled to begin 4 weeks after delivery. The patient was referred to genetic counselling. **Conclusions**: The treatment of breast cancer during pregnancy is challenging for the multidisciplinary team, which must focus on maternal and fetal well-being. Therapy should be carried out similarly to non-pregnant patients, respecting the procedures that are allowed in each gestational trimester. It is important to mention how essential it is to not delay the treatment, in order to not compromise the patient's prognosis.

PREGNANCY-ASSOCIATED BREAST CANCER: ANALYSIS OF CASES IN THE MASTOLOGY SERVICE OF HOSPITAL SANTA MARCELINA DE ITAQUERA, SÃO PAULO, FROM 2014 TO 2019

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Thirty-one year old, median gestational age of 28 weeks. Four of our patients were primiparous with less than 20 years of age, and two between the ages of 30 and 34, with median of secundiparous patients (50%). By analyzing the obesity and BMI (body mass index) factors, we concluded that 3 patients were mildly obese, and one presented with morbid obesity at the time of diagnosis. Our BMI mean was 29. Considering histology and immunohistochemical, eight patients were diagnosed with ductal invasive carcinoma, without other specifications; one was diagnosed with fusiform cell carcinoma, and one with mucinous carcinoma. The histological subtypes found were luminal B (4 cases) and triple negative (6 cases). These results were compatible with a French retrospective study from 2017. The pregnant woman, or in the puerperium, with breast cancer may present the same symptoms as the other patients with the disease, but diagnosis can be delayed due to the physiological changes in breast tissue in the pregnancy-puerperal period. In our study, all patients were diagnosed at advanced clinical staging (IIIA, IIIB and IV). The treatment follows the same protocols as for non-pregnant patients, considering not only the type of tumor and disease staging, but also gestational age. The most used therapy for our group was neoadjuvant chemotherapy, followed by radical modified mastectomy. This was owed to the advanced stage of the disease. The sentinel lymph node biopsy was performed in two patients. One was diagnosed in the post-partum period, and the other was diagnosed while pregnant of 34 weeks. The latter received surgical treatment after the pregnancy. Chemotherapics are relatively safe when applied after the second trimester. During the patients' follow-up, one of them presented with progression of the disease to the brain (this patient was in stage IV, with lung metastasis); one presented with bone and hepatic metastasis; and the other one had plastron recurrence. Until the conclusion of this study, four patients died. **Conclusions:** Pregnancy-associated breast cancer is a condition that should be observed by health teams, since its early diagnosis enables an approach that minimizes damages for the maternal-fetal binomial. Besides, detecting this disease in its early stages is the main factor that impacts the disease-free survival.

BREAST CANCER IN TWIN PREGNANCY

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Introduction: Breast cancer is the most common neoplasm among pregnant women, and occurs in up to 0.04% of pregnancies. There are only few short and long term results about the intrauterine exposure to antineoplastic agents, and treatment should follow the same guidelines as the one for non-pregnant women. Surgery is possible during the entire pregnancy. Radiotherapy is not indicated in pregnancy, but it is possible for selected patients. Chemotherapy is usually safe during the second and third trimesters, with interruption of the treatment three weeks before the probable date of birth; however, hormone therapy and anti-HER2 agents are contraindicated during pregnancy, and can be postponed until after birth. Objective: To report the case of a patient with breast cancer in the first trimester of a monochorionic diamniotic twin pregnancy, 13 years after thoracic radiotherapy due to Hodgkin's lymphoma. **Methods**: Medical chart review, interview with the patient, photographic record and literature review. **Results**: Thirty-four year old Japanese descendant woman, born in São Paulo, nutritionist, married, primiparous. In the eighth week of spontaneous twin pregnancy, she complained of a palpable, fast-growth nodule in the left breast superomedial quadrant. She took combined hormonal contraceptives from the ages of 17 to 33 years. Negative family history for neoplasms. Physical examination showed a nodule in the left breast superomedial quadrant measuring 9.0x7.5 cm – T3N0 (initial clinical staging IIB). **Propedeutics**: Obstetric ultrasound with topic monochorionic diamniotic twin pregnancy, compatible with 13 weeks and 5 days; breast US showed a complex irregular nodule in the left breast at 9h, measuring 54x40x40 mm: Birads 4. The ultrasound-guided percutaneous biopsy showed invasive carcinoma without expression of hormone receptors, negative HER2, 95% KI67 (triple negative). Negative staging for metastasis. She was referred to clinical oncology: received five sessions of Carboplatin (AUC 2) and Paclitaxel (80mg/m^2). Despite the treatment, the tumor progressed to 12x10.5 cm, with large areas and negative axilla. The choice was for mastectomy with axillary lymphadenectomy. Anatomopathological: absence of residual neoplastic cells and neoplasm in axillary nodes (0/8): pathological complete response. A Cesarean section was performed after 36 weeks of pregnancy, and two female infants were born, weighing 2030g and 2455g, Apgar 8/9 and 9/9, respectively. **Conclusion**: Breast cancer diagnosis and prognosis during pregnancy are not well established. Considering that, this study collaborates with others that were conducted to better understand this pathology in twin pregnancies.

CASE REPORT: LIPOSARCOMA OF THE BREAST IN A MAN

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Introduction: Sarcomas are a heterogeneous group of malignant neoplasms and represent less than 1% of neoplasms among adults; 80% of these cases originate in soft tissues. The liposarcoma corresponds to 20% of the subtypes of sarcoma in adults. **Objectives**: To present a rare case of liposarcoma of the breast. **Methods**: We studied the case of A.N.R, a 54-year old male patient, from Belo Horizonte, Minas Gerais, presenting a progressive growth nodule in the right breast. Mammography and breast ultrasound suggested lipoma. Core-needle biopsy of the nodule in the right breast was performed, and the anatomopathological was compatible with lipoma. **Case report:** Due to the progressive growth, the patient was submitted to nodule resection, with safety margins. Anatomopathological and immunohistochemical of the surgical piece were compatible with well-differentiated liposarcoma. The patient was followed-up by the oncologist and had a staging computed thoracic and abdominal tomography without changes, thus not indicative of adjuvant treatment. **Discussion**: Liposarcoma presents as a painless mass, of progressive growth, being more common in extremities and the retroperitoneum. When the well-differentiated morphological subgroup is located in the extremities and the torso, its excision is curative, and its metastatic potential is null in comparison to other locations; however, it is not recommended to underestimate the risk of local recurrence. **Conclusion**: even though the prevalence of benign lesions in soft tissues is higher than malignant lesions, it is important to consider a differential diagnosis of malignancy when the behavior and presentation of the tumor are atypical (deep location to the muscle fascia, larger than 5 centimeters, progressive growth), therefore leading to better surgical and therapeutic planning and to a more accurate treatment for the patient.

BENIGN NEOPLASM

GRANULAR CELL TUMOR OF THE BREAST: CASE REPORT

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Introduction: Granular cell tumor (GCT) is rare, usually benign, with less than a 2% chance of malignancy. It is usually located in the tongue, and affects the breast in only 6% of the reported cases, with incidence of 1:1000 cases of breast carcinoma. Its origin is related to the Schwann cells. It presents itself as a firm, painless, moveable mass, smaller than 3 cm. It can affect men and women in several age groups, and is more frequent among black women, from the 4th to the 6th decades of life. The image mimics malignant lesions. Mammography shows: dense, circumscribed, sometimes spiculated nodules, without associated microcalcifications. The ultrasound showed: solid, hypoechoic, heterogeneous, round, irregular nodule, with irregular halo in some cases. Histologically, there are large, polygonal cells, with eosinophilic, granular cytoplasm displayed in blades or trabeculae, with benign, atypical and malignant variants. Positive immunohistochemical (IHC) for markers such as: S00 protein, vimentin, neuron-specific enolase, CD-57, CF-68, inhibin alpha, SOX-10, calretinin, PGP9.5, Gap43. The treatment is the excision of the lesion with margins, with low risk of recurrence. **Objective**: To describe a case of GCT in Hospital Pérola Byington in January/2019. **Method**: Cross-sectional, descriptive case report obtained through a medical chart review. **Results**: S.R.P, 56-year old female, white patient, assisted in January, 2019, complaining of a nodule in the right breast for three months. She denies comorbidities, is not aware of family history of cancer. G1P1N, menacme from the age of 13 to 53, denies hormone therapies. At the first examination: nodule measuring 2.5x2.5cm, in the right SLQ, retracting the nipple; right axilla (RA) showing palpable lymph node. Mammography shows a nodule in the right breast (RB), with irregular shape, partially defined borders, measuring 3.8 cm, located in SLQ(B4)-. An ultrasound guided nodule core biopsy at 10hMD, measuring 2.24x1.52x1.97, RA without findings. Biopsy suggests GCT (without IHC). The choice was to perform an ultrasound guided mammotome with IHC, confirming the GCT (positive for S-100, CD-68, enolase and vimentin), submitted to sectorectomy for the excision of the residual lesion. **Conclusions**: GCT is rare, benign, in most cases; however, when clinical, epidemiological and imaging characteristics suggest cancer, it is necessary to make an anatomopathological confirmation with IHC and excision of the lesion.

TREATMENT AFTER BREAST CANCER RECURRENCE: CONSERVING SURGERY OR ADENOMASTECTOMY?

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Introduction: Different factors are related with the increased risk of local recurrence, such as tumor grade, surgical margins and age. The recurrence of a tumor shows the aggressiveness of the disease and can be related with progression and worse prognosis. Radical mastectomy is the standard treatment for patients who present local recurrence after conserving surgery (CS); however, different studies have shown oncological safety using a new conserving surgery as an alternative to treat recurrence in selected patients. In the past few years, due to an increasing concern of mastologists with oncological safety, besides the aesthetic result, adenomastectomy (nipple-sparing mastectomy, NSM) became a good therapeutic choice for patients with breast cancer. Several authors have demonstrated similar recurrence and survival rates when compared to NSM techniques and total mastectomy. This study aims at assessing the local recurrence rates and the distance of NSM versus CS for the treatment of breast cancer recurrence. **Methods**: We assessed data from patients with breast cancer recurrence after conserving surgery who were treated with NSM, 24 patients, or new CS, 22 patients. All surgeries to treat the recurrence were carried out between 2001 and 2017. **Results**: The mean age of patients submitted to NSM was 52.7 years, and 61.3 years in the CS group. Patients submitted to a new conserving surgery presented 81.8% of tumors smaller than 2 cm; 81.3% grade 1 and 2 tumors; and 43.9% of luminal A tumors. In comparison to these characteristics, the patients who underwent NSM demonstrated lower rates (66.7%) of tumors smaller than 2 cm, higher rates of grade 2 (63.2%) and 3 (36.8%) tumors, and only 26.4% presented luminal A tumors, being the highest percentage (52.6%) of luminal B tumors. After a mean follow-up period of 140 months, the local recurrences were similar for both groups: 20.9% in NSM, and 22.7% in CS. Only 1 (4.2%) patient submitted to NSM presented metastasis, and in the CS group, no patient presented metastasis. **Conclusions**: By assessing the characteristics of patients submitted to NSM or CS for the treatment of breast cancer recurrence after previous CS, we observed younger patients and more aggressive tumors in the group that underwent NSM. Despite these characteristics, the local recurrence rates were similar in both surgeries. The presented local recurrence rates are high, and show the difficulty to treat the recurrence of previous tumors. No patient in the CS group presented with metastasis, and only one was shown in the group of patients submitted to NSM. These results suggest that NSM can be a surgical option to treat breast cancer recurrence when CS is not possible; however, further studies need to be carried out to elucidate these findings.

DESMOID-TYPE FIBROMATOSIS OF THE BREAST IN A MALE PATIENT

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Introduction: The desmoid breast tumor was first described in 1832, by Mac Farianec. It originates in the parenchyma or in the thoracic wall muscles. In the presence of a breast implant, the origin can be related to the fibrous capsule. Primary breast fibromatosis is rare, less than 0.2% of the lesions. It is more common among women at reproductive age, with slow and progressive growth. It tends to be locally aggressive and present recurrence after resection, without metastatic potential. In imaging examinations, they simulate carcinomas. **Case report**: A 65-year old male patient complaining of palpable nodule in the left breast, with no family history of breast cancer or inherited genetic syndromes. Imaging examinations showed an irregular nodule, with spiculated margins, high density and posterior acoustic shadowing, measuring 1.4 cm (BI-RADS® 5). Percutaneous biopsy of the lesion favored desmoid-type fibromatosis. After sectorectomy, anatomopathological and immunohistochemical examinations confirmed the diagnosis. **Discussion**: The etiology and physiopathology of these lesions are still not totally known, and it is uncertain whether or not they are part of the abdominal and extra--abdominal fibromatosis spectrum. There are differences in the hormone receptor profile and recurrence rate. Cell proliferation occurs after trauma, hormone stimulation or genetic determination. It can rarely be associated with Gardner's syndrome or familial multicenter fibromatosis. The treatment consists of surgical excision of the lesion, and radiotherapy can be used in extensive or unresectable tumors. The use of hormone, cytotoxic or anti-inflammatory agents is considered, according to etiology. Tamoxifen can be efficient in negative hormone receptors through the synthetic induction of transforming growth factor beta 1 (TGF b1) through fibroblasts and apoptosis. The highest local recurrence rate occurs in 3 years, when quarterly surveillance is recommended.

MASTITIS

IDIOPATHIC GRANULOMATOUS MASTITIS: LITERATURE REVIEW AND RETROSPECTIVE ANALYSIS OF THE SAMPLE AT HOSPITAL FEDERAL DA LAGOA FROM 2013 TO 2017

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Introduction: Idiopathic Granulomatous Mastitis (IGM) is a benign inflammatory, rare and chronic condition. It constitutes about 24% of all breast inflammatory diseases, and its recurrence ranges from 16% to 50%. Its etiology was not completely elucidated. Breastfeeding and local trauma can be present. Other hypotheses include the use of oral contraceptives, hyperprolactinemia, smoking, infection, autoimmune diseases and alpha 1 antitrypsin deficiency. **Objectives**: To analyze data from patients in Hospital Federal da Lagoa diagnosed with IGM, and compare the results with the literature. METHOD: We conducted a retrospective analysis of the medical charts in Hospital da Lagoa, Rio de Janeiro, between 2013 and 2017, and identified 15 women, aged between 21 and 76 years, with IGM. RESULT: Of the 15 patients, 14 (93.3%) were tested for mastitis caused by common germs and Koch's bacillus. Thoracic x-ray, PPD and culture were performed, and one patient tested positive for BK. Of the 14 patients with negative result for secondary infection, one was pregnant, one had HIV, and the other 12 (85.7%) did not present any specificities. At physical examination, 10 women (66.6%) had ulcer, 9 (60%) had a palpable nodule. Eleven patients (73.3%) had undergone an ultrasound, 5 (45.4%) with BIRADS 4; 4 (36.3%) with BIRADS 3; one patient (9%), BIRADS 2, and two (18.1%), BIRADS 1. In the mammography of the first appointment, 7 (46.6%) had records int he medical chart. Three (42.8%) with BIRADS zero; 2 (28.5%), BIRADS 3; one (14.3%), BIRADS 4, and another one (14.3%), BIRADS. Six patients were submitted to some surgical treatment (40%); regarding medicine treatment, 10 patients had records. One (10%) received RIP scheme; 4 (40%) received antibiotic therapy; two (20%), a combination of antibiotics and corticoids (oral); one (10%), a combination of methotrexate with topic and oral corticoid; two (20%, topic corticoid. **Conclusion**: By comparing the medical charts' review with the literature, the results regarding clinical presentation, diagnosis and treatment are similar. The histopathological study is gold standard for diagnostic confirmation, and the medicinal conduct with regular follow-up is the best treatment.

TREATMENT – OTHER

CASE REPORT: METASTASIS IN THE RADIUS 6 YEARS AFTER THE TREATMENT OF INVASIVE BREAST CARCINOMA

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Introduction: It is estimated that 6% of the women with breast cancer (BC) present metastasis at diagnosis. In this context, the bone is the main site, followed by lung, liver and central nervous system. IN 15% of them, the bone presents as a single metastasis site, especially in the axial skeleton; unfrequently in the pelvis, and rarely in the appendicular skeleton. **Case Report:** In 2009, a female, 53-year old patient, in the menopause, hypertensive and former smoker, without family history of cancer, presented a palpable nodule in the right breast. At a consultation in the social responsibility service of Hospital Sírio Libanês, she presented a fragment biopsy compatible with invasive breast SOE, GH2, GN3, RE 80%, RP 50% and Ki67 20%. Staging was cT2 cN3C cM0. She underwent neoadjuvant chemotherapy with 4 cycles of doxorubicin with cyclophosphamide, and 12 of paclitaxel. She underwent quadrantectomy in the right breast, ipsilateral axillary lymphadenectomy, and reconstruction with thoracodorsal flap in August, 2010. Anatomopathological pT2pN3. She underwent radiotherapy of the breast and drainage, including supraclavicular fossa (50Gy) and boos (10Gy) until October, 2010. She used adjuvant anastrozole. In March, 2016, she reports pain and sudden loss of strength in the right forearm. X-ray and tomography showed extensive lesion in the radius, associated with pathological fracture without joint impairment. Systemic staging without other disease sites. Even though it was not possible to perform the biopsy, after a solid radiological evaluation, a secondary lesion was considered. She was started on exemestane and zoledronic acid, associated with immobilization and palliative radiotherapy (30Gy). The patient was asymptomatic, presented with pulmonary and lymph node progression in January, 201, changing from endocrine therapy to tamoxifen. In December, 2019, she started with fulvestrant de to discreet lymph node progression. She has been followed-up by an oncologist. **Discussion:** Lately, with advances in the multimodal treatment of BC, the global survival (GS) of the disease in stage IV has been increasing. Patients with single bone metastasis (SBM) have better prognosis, being mostly luminal tumors treated with the change of endocrine therapy. The main site of implantation is the lumbar and thoracic spine, and very rarely, the radius. Lee et al. reported, among 146 patients with bone metastasis, that 26 were in the femur; 5, in the humerus, and none in the radius, with progression-free survival of 24 months, and GS of 79 months. BC metastasis with appendicular skeleton, especially in the radius, are very rare; however, when SBM, present with better prognosis.

ANAPHYLACTIC REACTION TO PATENT BLUE DYE DURING SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER

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Introduction: Sentinel lymph node biopsy is indicated as gold standard in the surgical treatment of initial breast cancer, presenting as a more conservative approach and preventing total lymphadenectomy. Dyes or technetium radiopharmaceuticals can be used to identify the sentinel lymph node. The most used dyes for the identification of the sentinel lymph node are patent blue and isosulfan blue, and, in lower frequency, methylene blue. However, hypersensitivity reactions to blue dye have been described, estimating its prevalence in 0.6%-2.7%. The clinical status that characterizes the allergic reaction to the dye can range from mild skin changes to the severe condition, with circulatory collapse. **Objectives**: To present a severe case of allergic reaction to patent blue in a patient submitted to surgical treatment for breast cancer. **Method**: This is a case report study based on the analysis of medical records and literature review. Case report: T.L.O.M, female, 49-year old woman, white, married, born in Patos de Minas, MG. Patient diagnosed with Breast cancer, T1N0A0, with indication for sentinel lymph node analysis with blue patent and segmental resection of the tumor. ASA 1 pre-anesthetic evaluation, without history of allergy. The patient was submitted to general inhalation anesthesia and subcutaneous injection in the left breast of 2ml of patent blue, followed by massage. During the anesthetic plan, after 40 minutes of surgery, the patient was hypotensive (40x20 mmHg), with low saturation (ETCO2 28), tachycardia (120 bpm), associated with bluish urticariform papules, and major edema in the ear lobes, being immediately assisted with adrenaline bolus, metaraminol, and decadron. The patient became stable, and it was possible to conclude the procedure. Then, she was referred to the intensive care unit, under sedation and intubated due to the risk of laryngospasm. She evolved hemodynamically stable, and was extubated without intercurrences. **Conclusions**: A severe anaphylactic reaction to patent blue can risk the life of a patient in an unpredictable manner. Considering this case, it is essential that the entire staff involved in the sentinel lymph node biopsy be aware of the possibility of a hypersensitive reaction to the dye, being prepared to recognize and immediately handle the possible repercussions.

VIDEOLAPAROSCOPIC PROPYLACTIC SALPINGO-OOPHORECTOMY: INITIAL EXPERIENCE

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Introduction: The BRCA mutation substantially increases the risk of ovarian cancer, from 20% to 60% when the mutation is in BRCA1, and 10% to 20% in BRCA1. Bilateral salpingo-oophorectomy may be the most important intervention in these patients, with clear impact on the reduction of mortality caused by ovarian cancer, and about 85% to 50% of reduction in the incidence of breast cancer. Salpingo-oophorectomy should be performed from the ages of 35 to 40 in patients with BRCA1 mutation, and after the age of 40 for BRCA2 carriers. **Objectives**: To present our initial experience of prophylactic bilateral salpingo-oophorectomy in patients with BRCA mutation. Method: This is a retrospective study. We included all patients who had tested positive for the BRCA mutation assisted from 1999 to 2019. Seven patients were identified with BRCA mutation and underwent videolaparoscopic salpingo-oophorectomy. The procedure was classic. The pieces were removed in endobags and sent to histological analysis with serial sections. The study was approved by the Research Ethics Committee, report n. 2.817.502. **Results**: No tumor was found in the surgical piece. The mean age of patients when they underwent surgery was 45.8 years. The patients, together, added 21 cases of breast cancer and 4 cases of ovarian cancer among 1st, 2nd and 3rd degree relatives. Five (71.4%) patients presented with BRCA1 mutation. Three patients had been diagnosed with breast cancer, none with previous ovarian cancer. As to the surgery: 3 (42.8%) also underwent bilateral or contralateral risk-reducing mastectomy with reconstruction, and 4 (57.2%) only underwent bilateral salpingo-oophorectomy. All patients are alive and without an active oncologic disease, with mean follow-up of 32 months. **Conclusions**: In this sample, we did not find any occult tumor in patients submitted to bilateral salpingo-oophorectomy due to BRCA mutation.

CHRONIC OSTEOMYELITIS AS A COMPLICATION FROM MYCOBACTERIOSIS AFTER BREAST IMPLANT

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Introduction: Infection is one of the most feared complications in surgeries with the inclusion of breast implants, associated with the need for new procedures and aesthetic compromise. The agents that are most associated with this conditions are the ones that colonize the skin, such as *Staphylococcus aureus* and *Coagulase-negative staphylococci*. **Case Report:** We described the case of a 25-year old patient, who came to our service after an augmentation mammoplasty performed about 60 days before in a hospital in the countryside. She reported bilateral seroma and extrusion of the right breast implant on the 14th postoperative day, being submitted to antibiotic therapy and a new procedure for site review, with the placement of new implants, bilaterally. When she came to our service, on the 45th day after the exchange of implants, she presented with pain, fever, hyperemia and drainage of the purulent secretion in the operative wounds with extrusion of the implants. In the transoperative period, after the changes were identified, on the 3rd, 4th and 5th costal arches to the right, suggestive of osteomyelitis, associated with partial necrosis of the intercostal muscles and pectoralis minor. The bacteriological test of the periprosthetic secretion was bilaterally positive for *mycobacteruim abscessus*, and the anatomopathological study of the right costal arch biopsy was compatible with chronic osteomyelitis. The patient presented favorable clinical evolution after the removal of the implants and antibiotic therapy. **Discussion**: Mycobacteria are opportunistic organisms, which hardly cause diseases in human beings. Despite being uncommon, the infection of breast implants by mycobacteria can be associated with the contamination of surgical instruments and immunosuppression of the host. The infection can be similar to those caused by more common agents. In many cases, it presents with the later onset of symptoms. Prophylaxis and antisepsis, including special care regarding the protocols of sterilization of surgical instruments, are still the main factors associated with the impact of this type of complication in surgeries with breast implants.

BREAST MUCINOUS CYSTADENOCARCINOMA – CASE REPORT

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Introduction: Mucinous cystadenocarcinoma (MCC) is a rare primary breast tumor, first described in 1998. It was removed from the WHO classification in 2012, due to lack of consensus about its definition. To our knowledge, only 25 cases have been published in the literature. **Objective**: Case report and discussion of a case of breast MCC diagnosed in Centro de Doenças da Mama in Curitiba. **Case report**: Premenopausal 51 year-old patient, complaining of pain and nodule in the left breast. Physical examination showed a palpable nodule of approximately 2 cm, in the UOQ of the left breast. The ultrasound showed a 2.3 cm nodule, BI-RADS 5, submitted to core-needle biopsy with diagnosis of carcinoma with mucinous differentiation, positive for estrogen receptor (ER). The PET-Scan did not show extramammary site capture. Conserving surgery and sentinel lymph node were performed, with breast reconstruction using the geometric compensation technique. Macroscopy showed a cystic and solid mass, of mucinous content, measuring 4.0x3.5 cm. The histological status was suggestive of MCC, with 2 negative sentinel lymph nodes. The IQ showed mammaglobin expression, CK7 and ER, negative expression of c-erbB-2, CK20 and CK5/6. The patient was submitted to radiotherapy and hormone therapy. **Discussion**: The primary breast MCC needs to be distinguished from ovarian and pancreatic metastasis. The IQ for CK7 and CK20 can be useful, considering that the pancreatic and ovarian MCC have concomitant expression of CK7 and CK20; the breast MCC expresses only CK7. In the 26 cases described in the literature, including this study, mean age was 62 years (41-96), and the tumor size was variable (0.8–19 cm). Only 4 cases presented positive lymph nodes. Most described cases did not express ER. The reported cases were associated with good prognosis. **Conclusion**: A consensus on the histological nomenclature and longer follow-up time are necessary to better understand this variant.

EVALUATION OF TIME TO PERFORM SURGERY IN PATIENTS WITH BREAST CANCER ASSISTED AT HOSPITAL FEDERAL DA LAGOA (HFL), IN RIO DE JANEIRO, FROM JANUARY 2014 TO JANUARY 2017

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Objectives: The objective of this study was to assess the period of time elapsed between the date of biopsy and the date of surgery of patients with breast cancer (BC) assisted at the Mastology Service of HFL, from January 2014 to January 2017. We excluded from this analysis those patients with distant metastasis and the ones submitted to neoadjuvant chemotherapy. **Introduction**: Initial studies about the consequences on prognosis of the delay in diagnosis and treatment of BC tend to show that the longer the delay, the higher the disease staging at diagnosis; which, consequently, leads to lower survival rates. **Methods**: Retrospective study based on the analysis of medical records. We calculated the time elapsed between the date of biopsy of the malignant lesion and the date of the oncological surgery. The patients were divided in 3 groups regarding the time elapsed between biopsy and surgery: <60 days, 60 to 90 days and >90 days. **Results**: The mean waiting time for surgery was of 225.49 days. Only 2 patients (1.80%) waited less than 60 days. Seven patients (6.31%) were operated between 61 and 90 days, and the great majority of patients (102, in absolute numbers), waited for more than 90 days (90.89%). **Discussion**: Most studies associate the delay in diagnosis and BC treatment with lower survival rates. In a multivariate analysis, major delays to start the treatment were a significant risk factor for the reduction in survival. The delay in the surgical treatment of younger women (number of weeks between the date of diagnosis and date of definitive treatment) was assessed in a retrospective, case-control study published in 2013, which used data from the California Cancer Registry Database. In this study, the five-year survival of women treated with surgery who waited more than 6 weeks was 80%, in comparison to 90% among those whose delay was shorter than 2 weeks. Another retrospective study assessed the impact of the delay of the beginning of treatment after the biopsy confirmed BC. This analysis showed that the delay to begin the first treatment longer than or equal to 60 days was associated with worse specific survival rates. Gagliato et al showed the impact of the delay to start adjuvant chemotherapy in patients with BC in several stages, and with different tumor subtypes. The results showed worsened survival rates when the beginning of adjuvant chemotherapy was delayed in all of the study groups. **Conclusion**: Considering the data in this study and data from several others regarding the negative impact of delay in BC treatment, it is clear that efforts in all spheres of the government should be made so that the healing and survival rates can improve.

MINIMALLY INVASIVE TREATMENT FOR GYNECOMASTIA: ULTRASOUND-GUIDED VACUUM-ASSISTED EXCISION – CASE SERIES

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Introduction: Gynecomastia (GM) is the benign proliferation of breast tissue in men. Its prevalence is of up to 65% according to age. It can be unilateral or bilateral. The standard surgery is periareolar incision, even though it can lead to asymmetry (AS), anesthetic scar, retraction or necrosis of the nipple-areolar complex (NAC). The vacuum-assisted excision (VAE) is the alternative approach. **Objectives**: To describe the technique and results of ultrasound-guided VAE for GM. **Methods**: series of 7 cases of Simon I and II GM, submitted to US-guided VAE (10G needle and ENCOR® BD) between December 20, 2018, and October 26, 2019. The cases were assessed considering clinical, laboratory and imaging aspects with mammography (MMG) and US. The pre-surgical consent form was obtained. US-guided VAE was performed with a 3 mm incision, in the ambulatory, with local anesthesia (2% lidocaine) and no sedation, in the "fine precision" and "dense breast" modes, in order to leave a 1cm flap in the retroareolar region. At the end, a vacuum and/or manual drainage of the cavity was performed to reduce the postoperative hematoma (HMA). In the postoperative period, MMGs were performed 1 and 6 months after the VAE, and the revisions occurred on the 7th and 14th day, and the 1st, 2nd and 6th months. The patients wore vests for 30 postoperative days. The outcomes were good or excellent when the amount of residual breast tissue was minimum, and AS, retractions, necrosis, anesthetic scar or NAC deviation, absent. The patients filled out a form of satisfaction level and perception of the VAE. **Results**: Mean age was 26.7 years. Mean time of VAE was 28 minutes. The main complaint regarding VAE was aesthetic discomfort, followed by physical deformity. One patient presented with areola skin tear during the procedure. It was sutured and did not impact the aesthetic result. All patients and surgeons reported excellent or sufficient levels of satisfaction. There were no recurrences or re-approach in 6 months. There was no hemorrhage in the peri or postoperative period, with no open approach. No patient required sedation. They all had histology of GM. No cases of breast deviation, necrosis or NAC retraction, infection, AS our anesthetic scar. No patient reported changes in erection or breast sensitivity. They all presented with hemorrhagic suffusion and hematoma with spontaneous resolution in 30 days, without interfering in the outcome. No intervention or hematoma drainage was necessary in the postoperative period. **Conclusion**: US-guided VAE for GM is alternative to the conventional surgical treatment in Simon I and II cases, with good or excellent results. It presents low complication rates and high satisfaction rates. It is performed in the ambulatory, without intercurrences. Comparative studies of traditional surgery and VAE should be performed.

ALLERGIC REACTION TO PATENT BLUE IN BREAST SURGERY: CASE REPORT

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Introduction: The evaluation of the sentinel lymph node in the surgical treatment of initial breast cancer has been widely used. To identify the lymph node, patent blue dye or technetium radiopharmaceutical can be used. However, there have been reports of IgE-mediated hypersensitivity reactions to the blue patent dye (mean incidence of 1.8%), in some cases, severe, with severe hemodynamic repercussions that require vasoactive drugs. This frequency is higher than that of hypersensitivity reactions observed during anesthetic procedures. Therefore, we reported a case of allergic reaction to patent blue in the intraoperative period after periareolar subcutaneous injection. **Case description**: Female, 56-year old patient. Four months before, she presented with pleomorphic grouped calcifications in the upper quadrants of the left breast (Category 4) in mammography and ultrasound, increasing in the past 2 years. A stereotactic biopsy was performed, and showed a lesion compatible with carcinoma in situ, G3, G3 nuclear grade. She underwent a segmental resection of the left breast, with search for sentinel lymph node under general anesthesia induced by fentanyl, propofol and atracurium, maintained with sevoflurane, 50% of O2 and 50% of Ar. About 15 minutes after the patent blue injection, the patient had sudden tachycardia (HR=122bmp) and arterial hypotension (BP 80x40), simultaneously with the appearance of erythematous papules with bluish core in the trunk, abdomen and limbs. She was treated with volume replacement (500ml of Ringer's Lactate solution) and vasopressor (Ephedrine, 15 micrograms). Ranitidine, diphenhydramine and hydrocortisone were administered. She was hemodynamically stable. Five hours after the end of the surgery, she was on complete remission. The anatomopathological examination showed carcinoma *in situ*, sentinel lymph node and free margins, tumor measuring 1.5x0.6 cm. Immunohistochemical test showed invasive ductal carcinoma with extensive intraductal component, 80% ER, negative HER-2, and 40% ki67 – Luminal B. She is still undergoing radiotherapy and hormone therapy. **Conclusions**: The reaction was manifested by tachycardia, hypotension and skin changes. She presented good response to volume replacement and vasopressor, and was in full remission after 5 hours

QUALITY OF LIFE

EVALUATION OF SEXUAL PERFORMANCE IN WOMEN TREATED FOR BREAST CANCER

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Objective: To assess the sexual performance (SP) pattern in women treated for breast cancer (BC). **Methods**: Cross-sectional study with 33 women treated for BC. We included women aged between 35 and 66 years, with histopathological diagnosis of breast cancer, who already concluded the initial oncological treatment (surgery, chemotherapy and radiotherapy), in stage IV, assisted in the Unified Health System. They signed the informed consent form. Oncological data, such as staging, type of surgery, type of adjuvant treatment and follow-up time were collected through the analysis of medical records. The women were submitted to individual interview to assess SP, and the Female Sexual Quotient (FSQ) questionnaire was applied. The FSQ is formed by 10 objective questions that score from 0 to 5 points according to the answer: never, infrequently or rarely, sometimes, nearly 50% of the time, most of the time, always. The final score is defined by the sum of points multiplied by 2, and the SP is classified as: poor (0-20), unfavorable (22-40), fair (42-60), good (62-80), and excellent (82-100). Mean/standard deviation and percentage rates were used for statistical analysis. The study was approved by the Research Ethics Committee, Plataforma Brasil/CAAE: 02241618.1.0000.5381. **Results**: The mean age and oncological follow-up were 55±11 years and 4.5±2 years, respectively. The most prevalent oncological data were: 35% were in stage 2; 84% were submitted to conserving surgery; 95%, to radiotherapy; 65% underwent chemotherapy; and 80% were on endocrine therapy. Regarding sexual performance, 62% spontaneously think about sex; 35% are always interested in sex; and 54% are always stimulated by the "foreplay". During the sexual relation, 32% always get lubricated; 45% become more stimulated when the partner is aroused; 45% always relax their vagina appropriately; 45% never feel pain; 52% always get involved without distraction; 51% always reach orgasm; and 42% always wish to repeat sexual relations in the following days. After calculating the final score, the conclusion was that 6% have poor sexual performance; 20%, unfavorable; 20%, fair; 38%, good; and 16%, excellent. **Conclusion**: Most women treated for breast cancer present with sexual performance classified between good and excellent, according to the Female Sexual Quotient.

CO2 LASER THERAPY IMPROVING THE SEXUAL LIFE OF WOMEN AFTER BREAST CANCER TREATMENT (38 CASES)

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Objective: To verify the response to CO2 laser therapy in vaginal dryness among women submitted to treatment in a service in the State of Minas Gerais, Brazil. **Methods**: Descriptive, prospective case series study based on cases that were treated by the same staff from January 2019 to December 2019, storing predefined information and analyzing the data using the software R and SPSS PC. **Results**: Thirty eight women with mean age of 62.5 years + 9.1 (ranging from 48 to 82 years of age) were treated in the service for vaginal dryness. We observed total improvement of vaginal dryness in 94% of the cases. Improvement in sexual activity was observed in 83% of the cases, and increase in sexual relations, 71%. The satisfaction with the treatment was of 95%. We did not find statistical significance for the use of tamoxifen, anastrozole, previous chemotherapy and interval between surgery and laser therapy (p>0.05). **Conclusion**: The study shows good results of CO2 laser therapy in the improvement of vaginal dryness and sexual activity; however, the sample is limited for the statistical analysis of subgroups.

SUPPORTIVE CARE

PELVIC LYMPHANEDECTOMY DUE TO METASTATIC BREAST CANCER CAUSING POSTRENAL ACUTE KIDNEY INJURY

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Introduction: About 30% of the patients healed from breast cancer recurred with metastasis, and the lymphatic is the main path of dissemination. Usually, postrenal acute kidney failure (AKI) is a result of gynecological, urological, gastrointestinal and retroperitoneal cancer, but unusual in breast cancer. **Objectives**: To report the unusual metastatic behavior of the carcinoma for diagnostic elucidation. **Method**: Anamnesis and review of medical charts and bibliography. **Results**: White, female, 69-year old women being retreated for invasive ductal breast cancer, luminal B type, was hospitalized in June, 2018, with hypothesis of bronchopneumonia and AKI due to dehydration and infection. Laboratory examinations indicated urea at 75 mg/dl, creatinine at 2.56 mg/dl, sodium at 141 mmol/L, and potassium at 4.2 mmol/L. The initial conduct included antibiotics and hydration with 0.9% saline solution. Abdominal and bladder ultrasound indicated dilatation of the pelvicalyceal systems system and proximal ureters, without pointing a location and cause of obstruction; urinary bladder with conserved shape and capacity; absence of images compatible with calculi and expansive solid, cystic or complex injuries. Due to the worsened glomerular filtration rate and oliguria, a double J catheter was inserted to the left. However, there was no improvement in kidney function. Then, a nephrostomy was performed to the right, which restituted urine traffic. In February, 2019, urotomography showed dilatation of the pelvicalyceal system and right ureters to the pelvis (L5), where it became narrow, with a 1.5 cm caliber ureter obstruction; multiple metastasis in the pelvic bones and bilateral pleural effusion. A double J catheter was inserted in the right ureter through a cateter via anterograde pathway, thus recovering kidney function and comfort. After 5 months, computed tomography showed pelvic lymphadenopathy as the cause of obstruction. Currently, the patient has a metallic catheter in the right side, with good general status and on anastrozole. **Conclusions**: Metastatic breast cancer is still challenging and prone to complications. Therefore, its knowledge allows a better approach of patients by correlating them with more diagnostic and care possibilities.

EXERCISE PROTOCOL FOR SHOULDER MOVEMENT WITH RESTRICTED AMPLITUDE MOVEMENT FOR 15 OR 30 DAYS AFTER BREAST-CONSERVING SURGERY WITH ONCOPLASTIC TECHNIQUE: RANDOMIZED CLINICAL TRIAL

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Introduction: Early exercises in the postoperative period of breast cancer are important to prevent motor and functional complications 1,2. However, there are no prospective studies with protocols including specific exercises for patients submitted to breast oncoplastic surgery. **Objectives**: To assess the amplitude of movement, pain and upper limb function; incidence of dehiscence, seroma, infection and necrosis; and occurrence of reoperation in women in the postoperative period of oncoplastic breast cancer surgery, who underwent protocol of postoperative exercises with restricted shoulder movement for 15 or 30 days. **Methodology**: We included 60 women with breast cancer submitted to conserving surgery using the oncoplastic technique. They were assessed in the preoperative period and 07, 15, 30, 60 and 90 days after surgery. On the day after the surgery, all patients initiated an exercise protocol limited to 90 degrees, guided by the physical therapist, and performed at home. Two weeks after the surgery, they were randomized in two groups: Amplitude Free Group (30 patients) – liberation of shoulder joint amplitude at the pain threshold or until the sensation of displacement in surgical borders; Limited Amplitude Group (30 patients) – maintenance of shoulder movement restricted to 90º until 30 days after the surgery, when they were also cleared to do free amplitude exercises. **Results**: there were no differences between groups regarding shoulder joint amplitude, pain and function of upper limbs. In the intragroup analysis, only the Limited Amplitude Group presented upper limb functional index worse than in the preoperative period. There were no differences between groups regarding the incidence of postoperative scar complications nor the need for reoperation. **Conclusion**: the free amplitude exercises 15 days after the surgery did not have an impact on the movement amplitude nor on the pain, with beneficial effect only in the intragroup analysis, regarding upper limb function. It was considered safe in relation to scar complications.

PHYSICAL AND FUNCTIONAL COMPLICATIONS AFTER SURGICAL TREATMENT FOR BREAST CANCER

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Introduction: The ideal treatment for breast cancer should be carried out by a multidisciplinary team, aiming at the global approach of the patient. It is usually a prolonged process and can cause relevant changes in the lives of patients, such as limited shoulder movement, pain, lymphedema, adherence scarring, sensitive changes, phlebitis, among others. Physical therapy intervention plays an essential role and can prevent and minimize complications, besides enabling functional recovery. It is extremely important that the physical therapy service is aware of the prevalence of the main physical and functional complications and the impact of its intervention. **Objective**: To assess the main physical and functional complications in the post-surgical treatment of breast cancer. **Methods**: This is a cross-sectional study in which we analyzed the medical records of patients treated in the Physical Therapy Ambulatory from 2011 to 2016. We obtained data about the surgery, prevalence of pain, changes in perimeter, movement amplitude, evaluation of scapulohumeral rhythm and presence of axillary cording. **Results**: We assessed the data of 703 patients, whose mean age was 56 years; 50.1% were married, and body mass index pointed to overweight (mean: 26.8kg/m²). Sedentary lifestyle was prevalent (73.7%). The main surgery performed was quadrantectomy, followed by mastectomy. Pain was present, however, in extremely low levels (mean of pain in the Visual Analog Scale on the seventh postoperative day was 2.55); movement amplitude restrictions were higher in the beginning, and functionally reversed during follow-up; scapular dysfunction is also little prevalent (9.9%), with high percentage of long term resolution. The incidence of axillary cording was high (87.9%), which requires special attention. **Conclusion**: The study allowed to observe the main physical and functional complications after breast cancer treatment, and show the importance and necessity of early physical therapy.

FREE-AMPLITUDE UPPER LIMB EXERCISES AFTER MASTECTOMY AND IMMEDIATE RECONSTRUCTION ARE BENEFICIAL AND SAFE: RANDOMIZED CLINICAL TRIAL

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Introduction: Physical therapy plays an important role in the prevention of motor and functional complications in the postoperative period of breast cancer, reestablishing the motor function and improving the quality of life of patients. However, there is no randomized study about the different physical therapeutic approaches in patients submitted to mastectomy and immediate alloplastic reconstruction. **Objectives**: To assess the impact of clearance for free-amplitude upper limb exercises, 15 or 30 days after surgery, on the movement amplitude (MA) of shoulder, pain and upper limb function; on the incidence of dehiscence, seroma, infection and necrosis; and on the need for reoperation in patients after mastectomy and immediate reconstruction with alloplastic material. **Methodology**: Sixty women who underwent mastectomy due to breast cancer were included in this randomized clinical trial. They were submitted to evaluations in the preoperative period and 07, 15, 30, 60 and 90 days after surgery. They started with limited exercises at 90º of MA of the shoulder the day after the surgery. Fifteen days later, they were randomized in two groups of 30 patients: Free-Amplitude Group – liberation of joint shoulder amplitude at the threshold of pain, or until feeling the displacement of surgical borders; and Limited Amplitude Group – maintenance of restricted shoulder movements at 90º until 30 days after the surgery, when they were also cleared for free-amplitude movements. **Results**: Patients who were cleared for free-amplitude upper limb exercises 15 days after surgery felt less pain, wider shoulder amplitude and better upper limb function, in comparison to those whose movements were restricted to 90º for 30 days, without increase in incidence and prevalence of postoperative scar complications, and without inference in the need for reoperations. **Conclusion**: postoperative protocol that clears free MA of shoulder 15 days after surgery is safe and beneficial for the kinetic and functional recovery, as well as algic control in the postoperative period after mastectomy and immediate reconstruction with alloplastic material.