MULTIFOCAL, MULTICENTRIC AND BILATERAL BREAST CANCER

HAILA CRISTINA DO RÊGO SILVA[1], DANIELA DOS SANTOS ANJOS[1], ISABELLA VICTÓRIA SILVA PEREIRA[1], ANDRÉ MAROCCOLO DE SOUSA[1], IZADORA CAIADO OLIVEIRA[1], IZABEL JAKELINE MORAIS LIMA MOREIRA[2], SAMIR ANTÔNIO MADI FILHO[2], JOÃO BOSCO MACHADO DA SILVEIRA[3], JUAREZ ANTÔNIO DE SOUSA[1]

ABSTRACT

The following work aims to clarify the differences between multifocal, multicentric and bilateral breast cancer, as well as to elucidate the risk factors, diagnostic methods and better treatments for this condition that affects women worldwide. Results: The literature shows that in the diagnosis of multiple tumors, whether multifocal or multicentric, the use of mammography in conjunction with ultrasonography and magnetic resonance has almost 100% accuracy. Regarding treatment, conservative mastectomies and breast reconstructions with locoregional flaps or implants are indicated. With regard to bilateral breast cancer, the diagnosis is initially made during palpation and then by imaging tests. Regarding treatment, breast-conserving surgery associated with chemotherapy, radiotherapy and hormone therapy can currently be performed without harm to patients when compared to the classic treatment of bilateral mastectomy. Conclusion: The evolution of science and imaging diagnostic techniques allow, nowadays, more accurate diagnoses and better treatments that guarantee a more adequate quality of life for patients with breast cancer.

KEYWORDS: BREAST CANCER, MULTIFOCAL, MULTICENTRIC, BILATERAL.

INTRODUCTION

Technological advances in breast radiology and the introduction of magnetic resonance imaging in therapeutic planning have increased the detection of previously undetected multicentric and multifocal tumors. Multifocality is defined as the presence of two or more tumor foci, synchronous, in the same quadrant, and when in different quadrants, in the same breast, it is called multicentricity. The incidence of these tumors varies between 13% and 70% in several studies. The AJCC (American Joint Committee on Cancer) and the UICC (International Union Against Cancer) recommend that multicentric and multifocal tumors be staged according to the diameter of the largest tumor[1].

Synchronous bilateral breast carcinoma is defined as the simultaneous presence of two primary tumors at diagnosis. Those that are detected within the first 12 months of the diagnosis of the first tumor can also be considered synchronic; those discovered after that period are called metachronous. There is no consensus about the origin of a synchronous breast neoplasm, and it may be a metastasis of a primary lesion or a second totally independent tumor[2].

DIAGNOSIS

Several studies demonstrate that the sensitivity of mammography and ultrasonography in detecting multiple foci of carcinoma is around 50%, while magnetic resonance imaging has a sensitivity of between 94-99% for invasive carcinoma and between 50-80% for ductal carcinoma in situ. The association of mammography, ultrasonography and magnetic resonance increases the diagnostic accuracy to close to 100%3 (Figure 1).

1 - Universidade Federal de Goiás (UFG).
2 - Maternidade Aristina Cândida de Senador Canedo de Goiás.
3 - Academia Brasileira de Mastologia.

ADDRESS
HAILA CRISTINA DO RÊGO SILVA
Rua 227-A, 145 – Setor Leste Universitário
Goiânia – GO, 7461-055

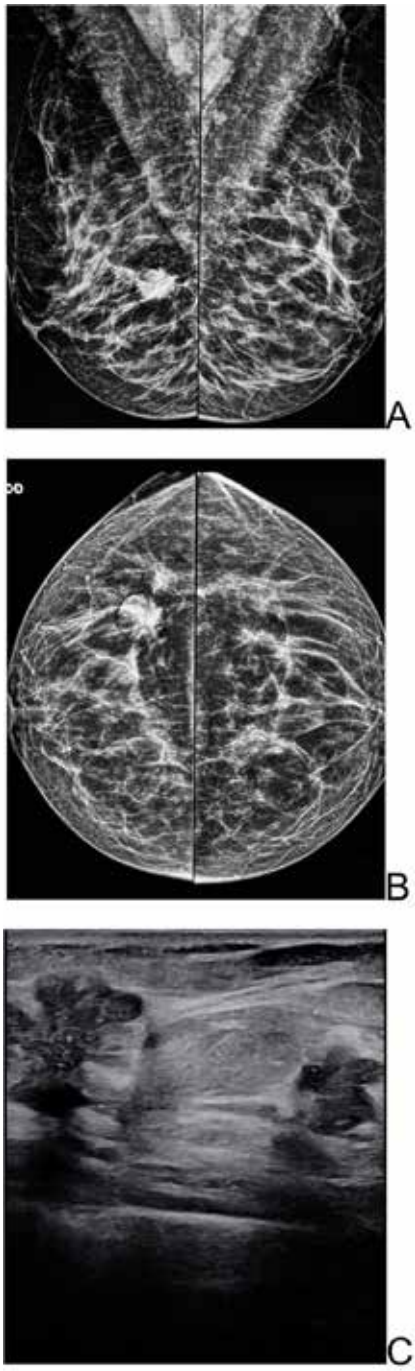

Figure 1 – A and B. Mammography, MLO and CC views showing two tumors in the right LOQ breast, with irregular shapes, spiculated margins and hyperdense. C. Ultrasonography showing two tumors in the LOQ of the right breast, with irregular shapes, spiculated margins, indistinct, angular, hypoechoic and non-parallel orientation.

Regarding bilateral breast cancer, the initial neoplasm is usually diagnosed by palpation, while the contralateral one is, in most cases, diagnosed by imaging tests such as mammography, ultrasound or magnetic resonance imaging, the first method being the most common in detecting the contralateral tumor (Figure 2).

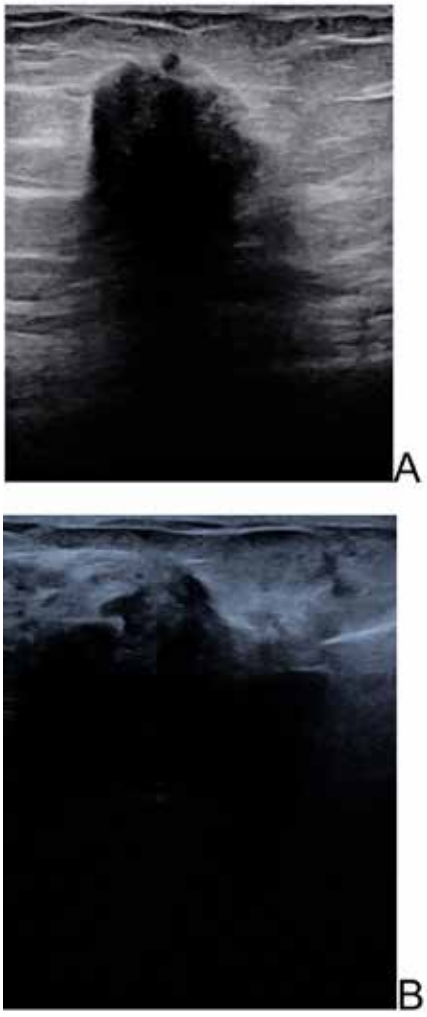

Figure 2 – Ultrasound. Bilateral breast carcinoma. A. Irregularly shaped nodule, located in the UIQ of the right breast, spiculated, indistinct and angular margins, hypoechoic, non-parallel orientation and posterior acoustic shadow. B. Tumor located in the UOQ of the left breast with an irregular shape, spiculated, indistinct and angular margins, hypoechoic, non-parallel orientation and posterior acoustic shadow.

This fact highlights the importance of screening the contralateral breast and monitoring all patients diagnosed with breast cancer.

TREATMENT

Traditionally, the presence of multicentricity represents a contraindication to conservative surgery due to the risk of failure in local control, and therefore mastectomy is indicated. Sentinel lymph node biopsy is effective and safe in this situation[4]. With the advent of new oncoplasty techniques, conservative surgeries and breast reconstructions with locoregional flaps or implants have become possible in women with multifocal or multicentric breast cancer (Figure 3). Radiotherapy or systemic treatment (chemotherapy and hormone therapy) follows the same guidelines proposed for unicentric tumors[5].

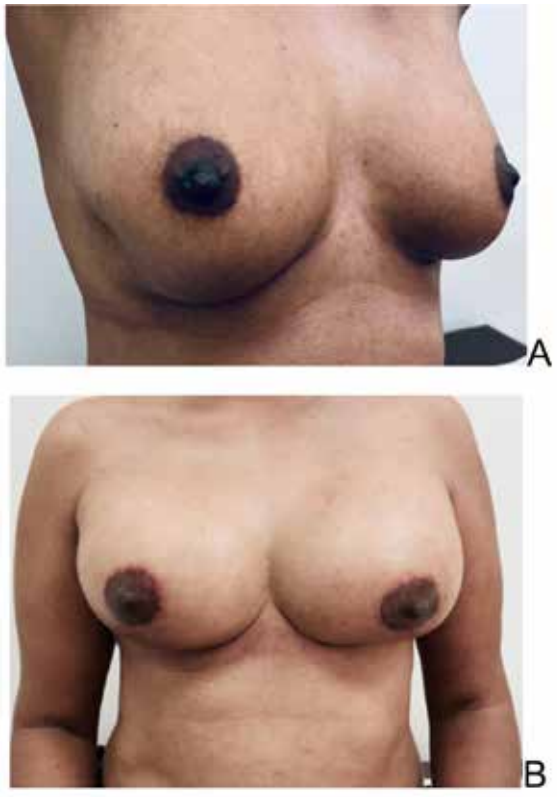

Figure 3 – Photograph of a woman undergoing conservative treatment for multifocal carcinoma of the LOQ right breast. A. Pre-surgery. B. After quadrantectomy, sentinel lymph node biopsy and mammoplasty with inclusion of silicone implants in the right breast and symmetrization of the opposite breast.

In the case of bilateral breast cancer, for many years bilateral mastectomy was the classic treatment for bilateral breast cancer. However, recent data demonstrate similar survival between patients with unilateral neoplasms and patients with bilateral breast tumors when treated with breast-conserving surgery along with chemotherapy, radiotherapy and hormone therapy. Therefore, conservation of the contralateral breast can be offered as a viable treatment option for patients with bilateral breast cancer, without compromising survival.

CONCLUSION

In multifocal and multicentric breast cancers, combined ultrasound, mammography, and magnetic resonance imaging provide diagnostic accuracy close to 100%. The individual sensitivity of the tests differs in relation to the types of ductal carcinoma in situ and invasive carcinoma6. With regard to bilateral breast cancer, the palpatory diagnostic method is the most used when the neoplasm is at an early stage, while in the contralateral one, imaging tests are used, usually mammography. Currently, the new oncoplasty techniques in the treatment of multicentric or multifocal breast cancer allow, in some cases, the performance of conservative surgeries and breast reconstructions. Radiotherapy or systemic treatment follows the same guidelines proposed for unicentric tumors[7]. With regard to bilateral breast cancer, bilateral mastectomy was the traditionally indicated treatment[8]. Research indicates, however, that breast-conserving surgery combined with chemotherapy, radiotherapy and hormone therapy offer similar results from a therapeutic point of view[9].

REFERENCES

1- CHIELLI, Gabriela et al. Câncer de Mama Multifocal: Relato de Caso. Revista Brasileira de Cancerologia, v. 66, n. 4, 2020.
2- IYEYASU, Hirofumi. Estudo de moléculas de adesão no câncer de mama bilateral. 2010. Tese de Doutorado. Universidade de São Paulo.
3- Colan-Georges A. Atlas de Ultrassonografia da mama completa. São Paulo: Dilivros 2019.
4- Bagnoli F et al. Mastologia: do diagnóstico ao tratamento 2ª edição Goiânia: Conexão Propaganda e Editora, 2022.
5- Boff RA, Carli et al. Compêndio de Mastologia. Abordagem multidisciplinar. Lemar, 2022.
6- Chagas CR, Menke CH, Vieira RJS, Boff RA. Tratado de Mastologia da SBM. Rio de Janeiro: Revinter, 2011.
7- Girão MJBC, Baracat EC, Rodrigues de Lima G. Tratado de Ginecologia. Rio de Janeiro: Atheneu, 2017.
8- Jay R. Harris et al. Doenças da Mama. 5. ed. Rio de Janeiro. Di Livros, 2016.
9- Porto e Porto. Semiologia Médica, 8. ed. Rio de Janeiro. Guanabara Koogan, 2019.