

WHEN THE INTRAMAMMARY LYMPH NODE IS THE SENTINEL: A CASE REPORT

Quando o linfonodo intramamário é o sentinela: relato de um caso

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ABSTRACT

Sentinel lymph node biopsy is currently well established in the assessment and determination of axillary status in breast cancer patients. In this scenario, finding intramammary lymph node are not uncommon, but the intramammary sentinel lymph node is rare and has uncertain therapeutic and prognostic significance, which may create difficulties in the management of these patients. Reports in the literature show a worse prognosis when the intramammary sentinel lymph node is compromised by metastasis, because at least 60% of these cases will have concomitant axillary disease. However, the decision on axillary dissection must be determined by the first drainage to the axilla, i.e. by the axillary sentinel node, and when this is not identified, axillary dissection should be recommended due to failure of the method. We report a case of intramammary sentinel lymph node identified and isolated during surgery by the Mastology Service of the General Hospital of Fortaleza, and an updated review of available literature on this subject.

KEYWORDS: Sentinel lymph node; sentinel lymph node biopsy; lymphatic metastasis; lymph nodes; breast cancer.

RESUMO

A biópsia do linfonodo sentinela está atualmente bem estabelecida na avaliação e na determinação do *status* axilar em pacientes com câncer de mama. Nesse cenário, o achado de linfonodo intramamário não é raro, porém o linfonodo sentinela intramamário é raro e tem significado terapêutico e prognóstico incertos, podendo assim criar dificuldades no manejo dessas pacientes. Relatos na literatura mostram pior prognóstico quando o linfonodo sentinela intramamário for comprometido por neoplasia, pois pelo menos 60% desses casos terão doença axilar concomitante. Contudo, a decisão sobre a dissecação axilar deve ser determinada pela primeira drenagem para a axila, ou seja, pelo linfonodo sentinela axilar, e quando este não for identificado, o esvaziamento axilar deve ser recomendado por falha do método. Reportamos aqui um caso de linfonodo sentinela intramamário identificado e isolado durante cirurgia pelo serviço de Mastologia do Hospital Geral de Fortaleza, e uma revisão atualizada da literatura disponível sobre essa temática.

PALAVRAS-CHAVE: Linfonodo sentinela; biópsia de linfonodo sentinela; metástase linfática; linfonodos; câncer de mama.

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INTRODUCTION

The local treatment of breast cancer has undergone great evolution in the last decades. Sentinel lymph node biopsy (SLNB) to determine axillary status is an example: currently, axillary dissection is avoided even when the SLN has limited metastatic disease^{1,2}.

Finding intramammary lymph nodes in mammography exams is not uncommon, however it is uncommon in the intramammary sentinel lymph node (ISLN), especially when there is no identification of axillary SLN, its therapeutic meaning or controversial prognosis.

We present a case report of a patient with ISLN, identified and isolated during surgery by the Mastology Service of the General Hospital of Fortaleza (HGF), after informed consent and authorization from the Ethics Committee, under number 2,646,759.

CASE REPORT

An 82-year-old female patient sought the HGF Mastology service reporting the appearance of a right breast nodule, discovered during self-examination three months prior. The patient had systemic hypertension as a comorbidity, controlled with oral antihypertensive medication. An irregular, painless nodule measuring 2.5 × 2.0 cm was identified during the physical examination. There were no palpable axillary lymph nodes. A mammogram examination revealed irregular asymmetry in the upper quadrant of the right breast, corresponding to the palpable area, as well as axillary lymph nodes and one ipsilateral intramammary lymph node.

An ultrasound-guided biopsy was performed, and an invasive grade II carcinoma was diagnosed without other specifications. Immunohistochemistry revealed negative hormone receptors, superexpressed human epidermal growth factor receptor 2 (HER2) and a 40% Ki 67 cell proliferation index. Sectorectomy surgery and SLN biopsy were scheduled.

The preoperative, intradermal and periareolar injection with the radiopharmaceutical (technetium-99) was performed, followed by lymphoscintigraphy, which identified two axillary SLNs and one ISLN (Figure 1).

After excision of the tumour site, the SLNs were identified with the aid of a gamma probe, resected and analyzed intraoperatively by frozen biopsy. Mammary carcinoma metastasis were found in two axillary lymph nodes and one intramammary lymph node via longitudinal sections, which were all confirmed in the definitive histology. The surgical margins of the mammary area were free. Due to the capsular extravasation of an axillary sentinel ganglion, a level 1 axillary dissection was performed, with histopathology showing six metastases free lymph nodes.

After the patient recovered from the surgery, adjuvant radiotherapy was commenced without intercurrents. Systemic therapy with chemotherapy and target therapy (trastuzumab) was not used due to the patient's age and co-morbidities

The patient had 83 months of follow-up, with no signs of local or distant recurrence.

DISCUSSION

The SLN is the gold standard for determining axillary status and its application has been consolidated in recent years. Initial contraindications, such as lesions greater than 3.0 cm, multicentric, biopsies or previous surgeries, gestation, among others, have declined over the years, and today there are practically no limitations to its use. However, the identification of ISLNs can create difficulties in the management of patients, since its clinical, therapeutic and prognostic significance is uncertain and controversial.

The incidence of intramammary lymph nodes is quite variable, and are more commonly found in the lateral quadrants of the breast. They are considered normal in the mammography exam when they are well defined, round or oval, with radioluscent centers and smaller than 1 cm. However, is the identification of these lymph nodes important before surgery? In a study of 93 specimens containing intramammary lymph nodes, 23 were identified preoperatively, metastasis was more frequent (43%) when the lymph node was identified by previous imaging³. However, the majority of these lymph nodes will be negative for the the presence of cancer, with positivity varying between 24 and 34% of cases^{3,4}.

There are some publications in the literature on positive ISLNs and their implications, with reports of worse prognosis, shorter disease-free interval and survival in general^{5,6}. After identifying axillary ISLNs and SLNs in 15 patients, Intra et al. concluded that axillary status should be determined by axillary SLNs, and when axillary SLNs were not identified, axillary dissection should be recommended due to failure of the method⁷.

A retrospective review of pathology findings demonstrated that intramammary lymph nodes were evident in only 2% of

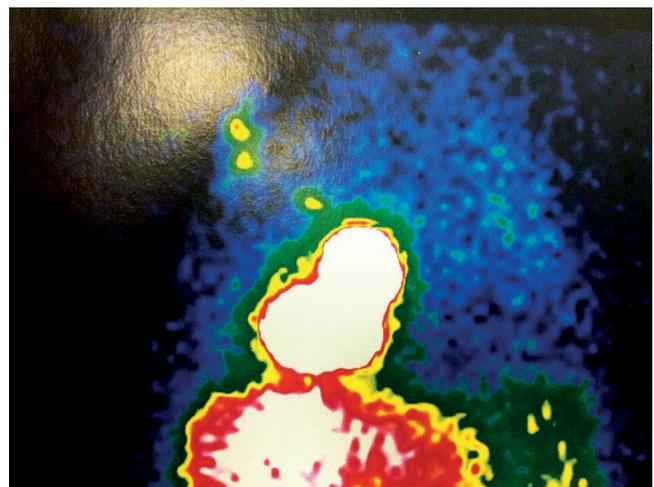


Figure 1. Lymphoscintigraphy with an intramammary sentinel lymph node and two axillary sentinel lymph nodes.

the cases, with positive lesions being less uncommon. However, axillary disease was identified in 61% of the cases with metastasis of these lymph nodes, and no additional axillary disease was found when the axillary SLN was negative and the intramammary lymph node was simultaneously compromised, suggesting that axillary dissection should be based on axillary SLN findings⁸. Our patient presented with a detected and metastatic ISLN, in addition to two compromised axillary SLNs, with one capsular extravasation. These findings corroborate with the literature, suggesting a greater risk of axillary involvement in cases with positive ISLNs. Our positioning on axillary dissection was facilitated by the presence of nodal extravasation in the axillary SLN.

The decision about radiotherapy or systemic therapy can also be a reason for debate in this scenario. The axillary lymph node is an important prognostic marker, and according to most guidelines, adjuvant therapy is recommended when it is metastatic. A retrospective review showed that patients with only

compromised ISLNs have a better prognosis when compared to positive axillary SLN alone. In this study, it was also observed that the ISLN does not necessarily predict the axilla: in eight women with positive ISLNs, none had axillary involvement⁹. These data suggest that the impact of ISLN is less than that of the axillary, but it does not mean that it is irrelevant, as there are reports of more association with more aggressive cancer due to increased angiolymphatic invasion and axillary metastasis¹⁰.

CONCLUSION

We conclude that our case coincides with findings in the literature which report poor axillary prognosis when there is a ISLN compromised by neoplasia. The decision on axillary dissection should be determined by the first drainage to the axilla, i.e. the axillary SLN. However, more data are needed to define the importance of ISLN in axillary status, as well as deciding on additional therapies.

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