Interesting image

Contralateral axillary drainage in a breast cancer patient without previous surgery history: An unusual pathway

Drenaje axilar contralateral en una paciente con cáncer de mama sin historia de cirugía previa: una vía inusual

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A R T I C L E  I N F O

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A 69-year-old woman without any previous disease presented with cutaneous induration and nipple retraction in the right breast. Conventional mammography revealed areolar thickening and ultrasound showed a small hypoechoic area of slightly heterogeneous echotexture in the right breast (Fig. 1A). No detectable axillary lymph node was found on the right side, but ultrasound showed a left axillary adenopathy without any breast lesion (Fig. 1B). Due to these findings a right breast fine-needle aspiration biopsy was recommended. An infiltrating GII lobular carcinoma was confirmed by histopathology. Therefore, one day before surgery a lymphoscintigraphy for sentinel lymph node (SLNs) detection was performed by peritumoral injection of 111 MBq of \textsuperscript{99m}Tc-nanocolloid. Images showed drainage to bilateral axillary region and ipsilateral internal mammary lymph node chain (Fig. 2). Three lymph nodes were resected from the right axillary region (considered as SLNs applying “the 10% rule”), another from the ipsilateral internal mammary region and a fifth lymph node from the left axillary region. All resected lymph nodes were negative for metastatic infiltration. On the scintigraphy an infracavicular lymph node was detected, but it was not surgically removed. Finally, the breast tumor was staged as pT2-pN0-Mx, Stage IIA. Patient clinical evolution has been favorable without any signs of local recurrence or disease progression.

The role of nuclear medicine in the detection of SLNs in primary breast cancer is to determine regional lymphatic drainage from the affected breast and the initial tumor stage.\textsuperscript{1} The awareness of the contralateral axillary lymph drainage directly from the tumor contributes to a better stage in patients with breast carcinoma, which could be important in prognostic and therapeutic decisions. Extra-axillary SLNs can only be detected if radioactive tracer is used, and pre-operative scans are carried out.\textsuperscript{2} Literature indicates that any kind of previous surgical manipulation before SLN detection, either recurrence of breast cancer, sternotomy or breast plastic surgery could originate post-surgical modification of lymphatic drainage.\textsuperscript{3}

This case draws attention to the fact the patient had no previous history of breast/axillary or thoracic surgery and presented with a direct physiological lymphatic drainage, both ipsilateral and contralateral to the affected breast. This finding corresponds to an unusual pathway under physiological conditions assuming that

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\item No detectable axillary lymph node was found on the right side, but ultrasound showed a left axillary adenopathy without any breast lesion (Fig. 1B).
\item Due to these findings a right breast fine-needle aspiration biopsy was recommended. An infiltrating GII lobular carcinoma was confirmed by histopathology.
\item Therefore, one day before surgery a lymphoscintigraphy for sentinel lymph node (SLNs) detection was performed by peritumoral injection of 111 MBq of \textsuperscript{99m}Tc-nanocolloid.
\item Images showed drainage to bilateral axillary region and ipsilateral internal mammary lymph node chain (Fig. 2).
\item Three lymph nodes were resected from the right axillary region (considered as SLNs applying “the 10% rule”), another from the ipsilateral internal mammary region and a fifth lymph node from the left axillary region.
\item All resected lymph nodes were negative for metastatic infiltration.
\item On the scintigraphy an infracavicular lymph node was detected, but it was not surgically removed.
\item Finally, the breast tumor was staged as pT2-pN0-Mx, Stage IIA.
\item Patient clinical evolution has been favorable without any signs of local recurrence or disease progression.
\end{itemize}

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\textbf{Fig. 1.} Ultrasound findings. (A) Right breast palpable induration – arrow head, measuring 6.9 mm – double headed arrow. (B) Left axillary adenopathy.
Fig. 2. Lymphoscintigraphy for sentinel lymph node detection. Anterior (A), lateral right (B) and left (C) projections. The drainage pattern: right axillary region (1), ipsilateral internal mammary lymph node chain regarding breast tumor (2) and left axillary area (3) demonstrating a contralateral lymphatic drainage respect to the affected breast.

the primary tumor physiologically used the alternative lymphatic drainage route to the contralateral axilla. Recent studies suggest the existence of a contralateral physiological drainage path as a normal anatomic variant, revealing a direct regional lymphatic spread instead a systemic involvement.\textsuperscript{1,2}

In conclusion, the ability to identify a rare anatomical variant of lymphatic drainage by lymphoscintigraphy contributed to improve tumor staging. This would have implications for the multidisciplinary management of these patients: to include a contralateral axillary dissection (if necessary), to change the planned chemotherapy and/or to include radiotherapy to the contralateral axillary region.

References