Interesting image

False positive of intramammary sentinel lymph node in lymphoscintigraphy*

Falso positivo linfogammagráfico de ganglio centinela intramamario

I. Lanchas Alfonsoa,∗, M.B. Miguel Martínez a, M.I. García Higuera b, J.B. Montero Ruicz, J. Aragón Martínez c, J.J. Duque Gallo a

a Servicio de Medicina Nuclear, Complejo Asistencial de Burgos, Burgos, Spain
b Servicio de Anatomía Patológica, Complejo Asistencial de Burgos, Burgos, Spain
c Servicio de Ginecología y Obstetricia, Complejo Asistencial de Burgos, Burgos, Spain

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A 52-year-old woman with infiltrating ductal carcinoma of the left breast of clinical stage IIA is reported. Tumorectomy and selective biopsy of the sentinel lymph node (SLN) were performed. Mammography showed dense breasts with an image of poorly defined asymmetric density joining the inferior quadrants of the left breast which corresponded to a suspicious solid nodule of 18 mm × 11 mm on ultrasound (Fig. 1). The nodule with benign characteristics in the interior external left breast coinciding with a cyst with echogenic content. The axilla was both clinically and echographically negative. On MRI there were fibrocystic changes, pathological uptake in the anterior lesions and another uptake in the superior internal quadrant of the right breast corresponding with an inclusion cyst.

The day prior to surgery subareolar injection of 0.3 cc of 111 MBq (3mCi) of $^{99m}$Tc albumin nanocolloid was performed (single puncture at the joining of the inferior quadrants). The scintigraphy (Fig. 2) demonstrated left axillary drainage to two SLN and to another intramammary foci in the superior external periareolar quadrant which was interpreted as the intramammary (ISLN) showing persistent uptake in the late study with no correlation with structural lesion in the examinations carried out. Two left axillary SLN (180 and 70 cps) were resected with posterior removal of the supposed ISLN (60 cps). No macroscopic lymph node structure was identified ex vivo, deferring study. The intraoperative study by one-step-nucleic-acid-amplification (OSNA) was positive for macrometastasis in the first SLN and micrometastasis in the second one. The anatomopathological study of the tumorectomy revealed an infiltrating duct of 2 cm × 2 cm, with the surgical margins being respected. The histology of the supposed ISLN (Fig. 3) was of mammary parenchyma with fibrosis of the stroma, sclerosing adenosis and collagenous spherulosis. Associated microcalcifications and an absence of histological signs of malignancy were observed. Ten left axillary lymph nodes in levels I and II were negative. Histological false positive results of axillary SLN have been described in breast cancer, generally being attributed to glandular heterotopias in the lymph node. However, at an intramammary level we only found one recently published report of a false positive of ISLN by uptake of the radiotracer in a hyperplasia which was a satellite to the neoplasia. In our case intramammary lymphoid tissue was not identified either, with the uptake corresponding to benign breast lesions within the context of a fibrocystic disease. Similar to other authors we understand that any intramammary drainage must be extensively studied with imaging tests and, if available, directed ultrasonography prior to surgery with the aim of attempting to characterize the uptake. We believe that this case is of special interest because of the scarcity of reports and to thereby avoid diagnostic errors considering the relevance of the knowledge of these false positive results in SLN lymphoscintigraphy which, through supposed canals or ducts, imitate a real lymphatic drainage.

Fig. 1. Ultrasonography of the left breast showing a solid nodule with irregular edges of 18 mm × 11 mm suspected of malignancy.

∗ Corresponding author.
E-mail address: ilanchas@cyi.com (I. Lanchas Alfonso).
Fig. 2. (A) Left anterior oblique projection of the left breast lymphoscintigraphy. Focal intramammary uptake in the supposed ISLN (arrow), and drainage by the lymphatic channel to axillary lymph node(s). (B) Late image at 6h with persistent focal intramammary uptake which was even more intense (arrow), and visualization of the two axillary SLN.

Fig. 3. Breast tissue showed sclerosing adenosis (right panel), and collagenous spherulosis (arrow heads) within a mammary lobule (arrow) within the context of a fibrocystic disease (HE, ×200).

References