

Axillary Intranodal Cysts Associated With Breast Malignancy

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A 48-year-old woman came to our institution with a palpable mass in the inferior outer quadrant of her left breast, which had enlarged during the preceding 2 months. She also had a minute nodule in her right breast that had been present for a long time. The patient was otherwise well and had no significant history of disease or surgery in any part of her body.

After physical and radiographic examination, the patient underwent elective left quadrantectomy with ipsilateral axillary lymph node dissection and nodule resection in her right breast. Tissue removed from left quadrant revealed an intraparenchymal, 1.2-cm, firm, grayish mass. Microscopic examination of the mass showed a T1 N0, well-differentiated invasive lobular carcinoma with pagetoid spread to some ducts. Strong immunoreactivity for estrogen and progesterone receptors was observed. No metastases of carcinoma were found in 22 axillary lymph nodes. The nodule localized in the right breast was determined to be a fibroadenoma.

One of 22 lymph nodes showed multiple subcapsular cysts with stratified squamous epithelium; intraluminal debris referring to keratin was also present (Figure 1). No atypia or other features of malignancy were seen in these inclusions, and the residual structure of the lymph node was normally represented.

These deposits were characterized by bland stratified epithelia, better seen with anti-cytokeratin 5/6 antibody (clone D5/16 B4; Dako Corporation, Carpinteria, Calif), which demonstrated squamous differentiation of the cysts (Figure 1, inset).

Morphologic characteristics of these epithelial inclusions failed to show any correlation with the primary carcinoma, which was represented by a classic "Indian files" growth pattern and squamous differentiation, which sometimes can be seen in breast carcinomas, but was not observed in this tumor (not shown).

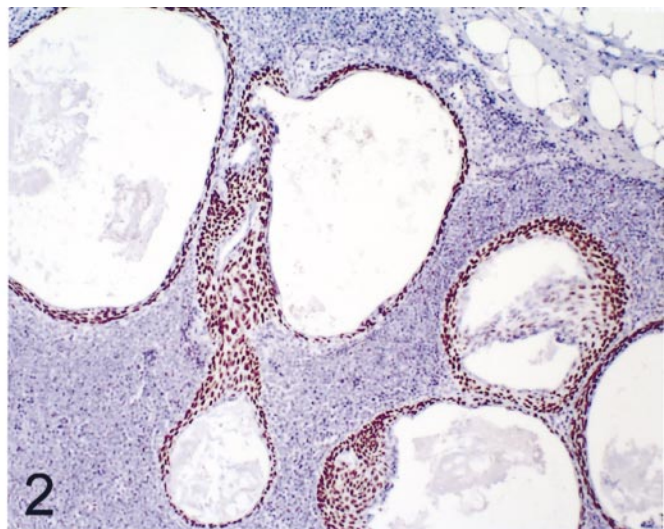
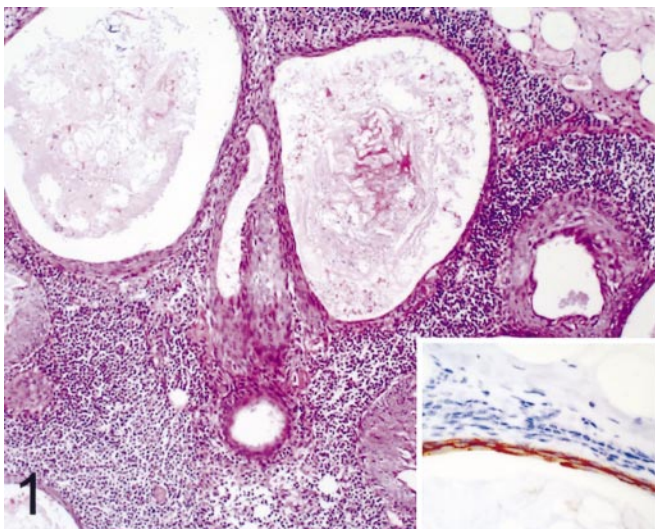
Strong nuclear immunoreactivity for p63 (clone 4A4) (Santa Cruz Biotechnology, Santa Cruz, Calif) was uniformly positive in the epithelium, except in the most superficial epithelial cell layer of the inclusions (Figure 2). This immunophenotype could underscore an advanced metaplastic process. There was no expression for smooth muscle actin (clone 1A4; Dako), and CD10 (clone 56C6; Novocastra Laboratories, Ltd, Newcastle upon Tyne, United Kingdom) reactivity was negative as well, indicating the lack of a myoepithelial cell layer. Moreover, immuno-

Accepted for publication November 6, 2003.

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The authors have no relevant financial interest in the products or companies described in this article.

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reactivity for estrogen (clone 1D5; Dako) and progesterone (clone PgR636; Dako) receptors was absent.

Our review of the literature revealed that almost all epithelial deposits were morphologically characterized by aggregates of ducts, apocrine cysts, or stratified squamous cysts associated with numerous mammary duct-like structure.^{1,2} These ducts also had a myoepithelial layer.

Eleven of 21 reports in the literature were associated with ipsilateral breast cancer. Seven of these 11 cases were recently well documented in sentinel axillary lymph nodes.³ We believe we have described the third reported case of axillary lymph node containing cyst lined by stratified epithelium without other components, such as mammary ducts.^{4,5} The first such case was reported by Fraggetta and Vasquez⁴; they described squamous inclusions without a ductlike component, but associated with foci of squamous metaplasia in the primary breast carcinoma. The second case was reported by Hong et al⁵ and appeared to be similar to the current case in that it lacked any apparent relationship with breast carcinoma. This patient had no history of prior breast disease and surgical trauma could not have been the origin of the epithelial inclusion.

Benign heterotopic inclusions within lymph node are well-defined but rare pathologic findings. In daily prac-

tice, pathologists have to pay attention to these benign lesions and are asked to differentiate them from metastatic carcinoma. First described by Garrett and Ada in 1957,¹ only 21 reports have been documented in axillary nodes to date, supporting the rare nature of these inclusions. This phenomenon within lymphoid tissue is not well understood, although several theories have been suggested, including transportation of epithelial cells (eg, benign metastasis), embryological maldevelopment, and metaplasia of multipotential cells.

The present case underscores the concept that epithelial inclusions are cytologically benign and unaccompanied by any symptoms, but their recognition is essential in order to avoid unnecessary therapeutic procedures.

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