Benign Intracystic Papilloma of the Male Breast

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Although gynecomastia is the most common disease of the male breast, almost all diseases in the female breast could arise in the male breast, such as primary breast carcinoma, fibroadenoma, lipoma, fat necrosis, and papilloma. Benign intracystic papilloma (IP) in the male breast is more rare than other diseases of the male breast. Only 11 cases of IP in the male breast have been reported worldwide, as indicated by a survey of the literature.[1–3]

We report a case of IP in a 44-year-old man diagnosed by breast sonography (US) and sonographically guided core needle biopsy.

Abbreviations
IC, intracystic papilloma

Received April 2, 2008, from the Departments of Diagnostic Radiology (J.H.S., E.J.S., E.-K.K., J.Y.K.), General Surgery (J.J.), and Diagnostic Pathology (S.W.H.), Yongdong Severance Hospital, Yonsei University College of Medicine, Seoul, Korea. Revision requested April 10, 2008. Revised manuscript accepted for publication April 24, 2008.

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Case Report

A 44-year-old man had a palpable lump in the left subareolar area of 3 months' duration and also had serous nipple discharge. There were no other relevant features in his medical history, which included drug use and medical conditions known to be associated with gynecomastia, and there was no history of chest trauma.

On physical examination, there was a hard lobulated contour and a fixed mass at the chest wall. There were no palpable axillary lymph nodes, and there was no skin thickening or nipple retraction.

Conventional mammography showed a high-density lobulated mass with a partly obscured margin in the subareolar portion. There was no calcification associated with it (Figure 1, A and B). Breast sonography showed a 1.2 × 1-cm complex cystic lesion, which revealed an irregularly shaped isoechoic solid mass projecting into the cyst (Figure 1C). There were no suspicious lymph nodes on sonography. We classified the lesion as American

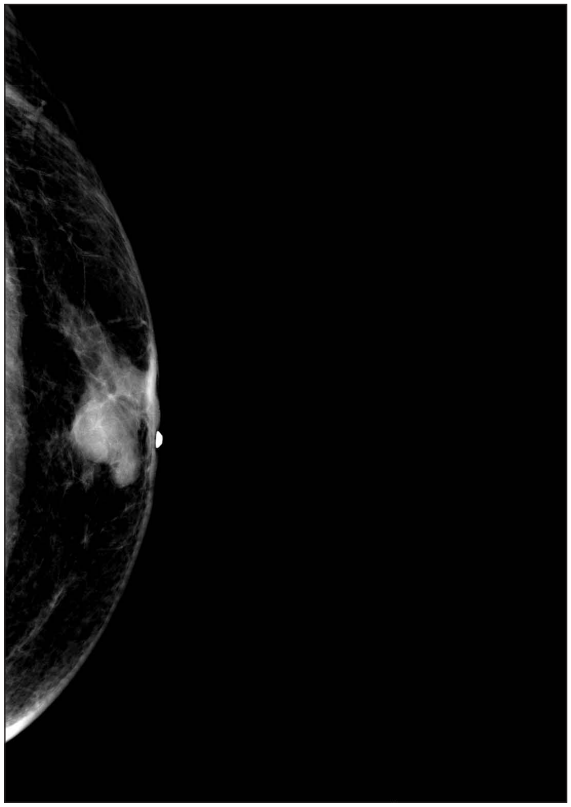
College of Radiology Breast Imaging Reporting and Data System category 4b (intermediate suspicious for malignancy) and recommended sonographically guided core biopsy.

Sonographically guided core needle biopsy was performed with a 14-gauge needle and a semiautomated biopsy gun, which was targeted to the solid component. The histologic diagnosis was IP. The patient underwent excision, and the specimen was also confirmed as benign IP.

The histologic features of IP in the male breast are similar to those of papilloma of the female breast. In our case, pathologic examination revealed proliferation of ductal epithelium supported by frond-forming fibrovascular stroma. Branching fronds of stroma support a layer of epithelium with epithelial and myoepithelial cells. Some cases show stromal overgrowth and hyperplasia of the epithelium. In some areas, all space between fibrovascular stalks is filled by proliferative ductal epithelium, forming a solid (Figure 2).

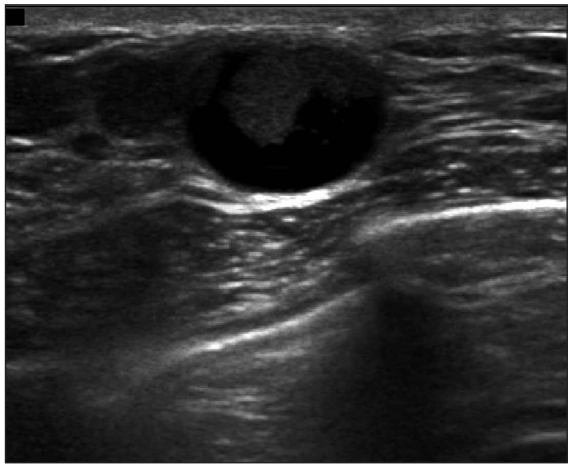
Figure 1. Palpable mass in the left subareolar area of a 44-year-old man. **A** and **B**, Mammography (**A**, craniocaudal view; **B**, mediolateral oblique view) shows a high-density lobulated mass with a partly obscured margin in the subareolar portion. There is no calcification associated with it. **C**, Breast sonography shows a 1.2 × 1-cm complex cystic lesion, which reveals an irregularly shaped isoechoic soft tissue mass projecting into the cyst.

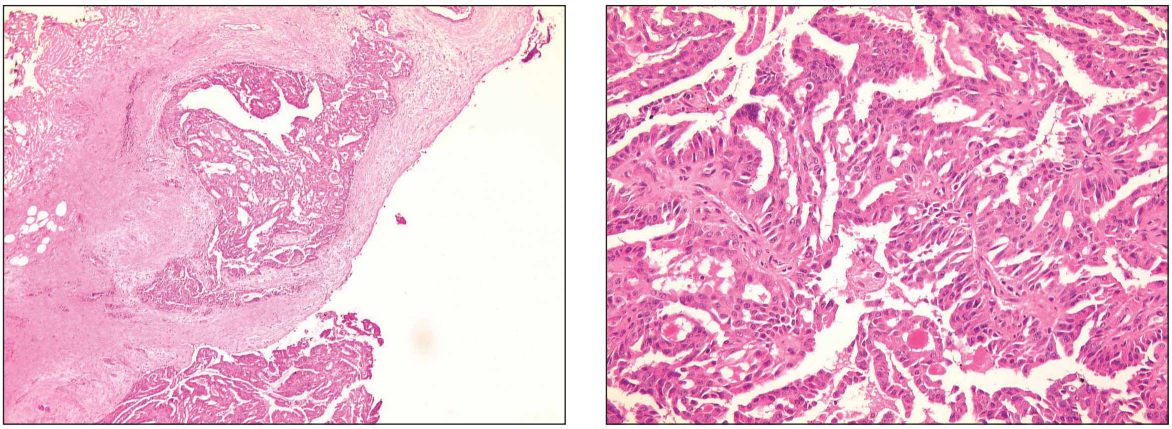
A



B

C





A B

Figure 2. A, Hematoxylin-eosin staining (original magnification ×40) shows proliferation of ductal epithelium supported by frond-forming fibrovascular stroma. **B**, High-power field shows papillary figures with branching fronds of stroma and overlying epithelial and myoepithelial cells. No cytologic atypia or abnormal mitoses are shown.

Discussion

Benign IP in the male breast is very rare because the normal male breast is characterized primarily by subcutaneous fat and a remnant of subareolar ductal tissue. According to a review of the literature, Simpson and Barson[4] first reported IP of the male breast in 1969. We found only 11 cases of IP of the male breast.[1–4] Pathologically, IP is a hyperplastic polypoid lesion within the duct. The cystic area of IP is actually a cystically dilated portion of the duct containing papilloma. Therefore, there is no histopathologic difference between intraductal papilloma and IP, and the origin of its cyst is likely different from that of the cyst that arises in the lobule. Imaging features of the previously reported cases showed typical findings of a complex cystic mass. Mammography mostly shows a discrete dense mass in the subareolar portion, and sonography revealed smooth-walled cystic lesion with an internal solid component.

In the evaluation of our case, the mammographic findings were suspicious, so sonography was performed to characterize the mammographic findings, which revealed a complex cystic lesion. Therefore, the differential diagnosis should include benign papilloma, intracystic papillary carcinoma, and intraductal carcinoma. The radiologic and clinical features of benign IP, including a mass and nipple discharge, are similar to those of intracystic carcinoma.[5] Therefore, complex cystic masses with discrete solid components clearly require biopsy.[6] Sonographically guided core needle biopsy can be performed as a less invasive method for differential diagnosis of benign IP and intracystic carcinoma when a solid component is present in the cyst.

In a review of the literature, there was no predilection for age or the right or left breast. Clinically, there are no medical conditions associated with IP in the male breast. However, 2 cases[3,7] raised the possibility of a relationship between IP in the male breast and long-term therapy with phenothiazine, which has been known to increase the level of prolactin. However, an explanation for this is not clear yet.

In summary, we report a case of IP of the male breast, which is very rare. The radiologic features were not different from those of papillary carcinoma. Therefore, pathologic correlation was needed for the differential diagnosis.

References

1. Georgountzos V, Ioannidou-Mouzaka L, Tsouroulas M. Benign intracystic papilloma in the male breast. Breast J 2005; 11:361–362.

2. Volmer J. Intraductal (intracystic) papilloma of the male breast [in German]. Zentralbl Allg Pathol, 1984; 129:513–519.

3. Yamamoto H, Okada Y, Taniguchi H. Intracystic papilloma in the breast of a male given long-term phenothiazine therapy: a case report. Breast Cancer 2006; 13:84–88.

4. Simpson JS, Barson AJ. Breast tumours in infants and children: a 40-year review of cases at a children's hospital. Can Med Assoc J 1969; 101:100–102.

5. Lam WW, Chu WC, Tang AP, Tse G, Ma TK. Role of radiologic features in the management of papillary lesions of the breast. AJR Am J Roentgenol 2006; 186:1322–1327.

6. Berg WA, Campassi CI, Ioffe OB. Cystic lesions of the breast: sonographic-pathologic correlation. Radiology 2003; 227:183–191.

7. Sara AS, Gottfried MR. Benign papilloma of the male breast following chronic phenothiazine therapy. Am J Clin Pathol 1987; 87:649–650.