The Dermatologist's Role in Diagnosing a Rare Disease—Male Breast Cancer

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After discussing the rarity of male breast carcinoma, I present the case of a 75-year-old white man who, during an office visit for a second opinion regarding his eczema, was found to have breast cancer. (While examining the patient's integument, I found an inverted nipple and a subareolar mass.) I also discuss the need for dermatologists to emphasize to their patients the importance of complete general skin examinations. This case is, I believe, the first case of invasive primary male breast carcinoma to be reported in the dermatologic literature.

Male breast cancer is rare, accounting for approximately 1% of all breast cancer.[1] It is estimated that 1400 new cases of invasive breast cancer will be diagnosed among men in the year 2000.[2] The most common presenting complaint is a mass found on self-examination. Predisposing factors include abnormalities associated with estrogen metabolism, radiation exposure,[3] older age, and genetic predisposition.[4] For males and females, the prognosis for breast cancer seems similar, stage for stage.[3] As dermatologists, we can play an important role in initial evaluation and discovery of this rare disease through diligent evaluation of the skin and associated structures.

Case Report

A 75-year-old white man with a history of chronic eczema presented for a second opinion regarding his rash. He had been treated most recently with topical steroids and oral antihistamines, which provided some temporary benefit. Otherwise, he felt well and had no other complaints. His medical history was remarkable for multivessel heart disease, congestive heart failure, and long-standing hypertension. Recent surgical procedures included carotid endarterectomy and pacemaker placement. He denied any family history of breast cancer. No history of radiation therapy to the chest and no history of hormone therapy were elicited. He denied use of cigarettes since 1960 and cigars since 1985. He did not drink alcohol and was a retired police officer.

Figure 1. Right breast with evidence of nipple retraction and inversion.

Results of a physical examination showed a well-developed, well-nourished, elderly white man. Few eczematous plaques were noted over the torso and arms. There was incidental inversion of the right nipple with a 2-cm palpable subareolar mass (Figure 1). No discharge or tenderness was evident with palpation. The left breast was unremarkable. No axillary lymphadenopathy was noted on the right side. A same-day mammogram showed a gross abnormality consisting of a 2-cm irregular spicular mass with microcalcifications in the right retroareolar location causing adjacent skin thickening and nipple retraction (Figure 2). The patient was referred for surgical evaluation. A breast biopsy was found to contain invasive ductal adenocarcinoma (Figure 3). A modified radical mastectomy was undertaken. There was no evidence of angiolymphatic invasion in the specimen. Perioperative lymphoscintigraphy was performed, and the sentinel

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Figure 2. Mammogram of right breast with microcalcifications, nipple retraction, and subareolar mass.

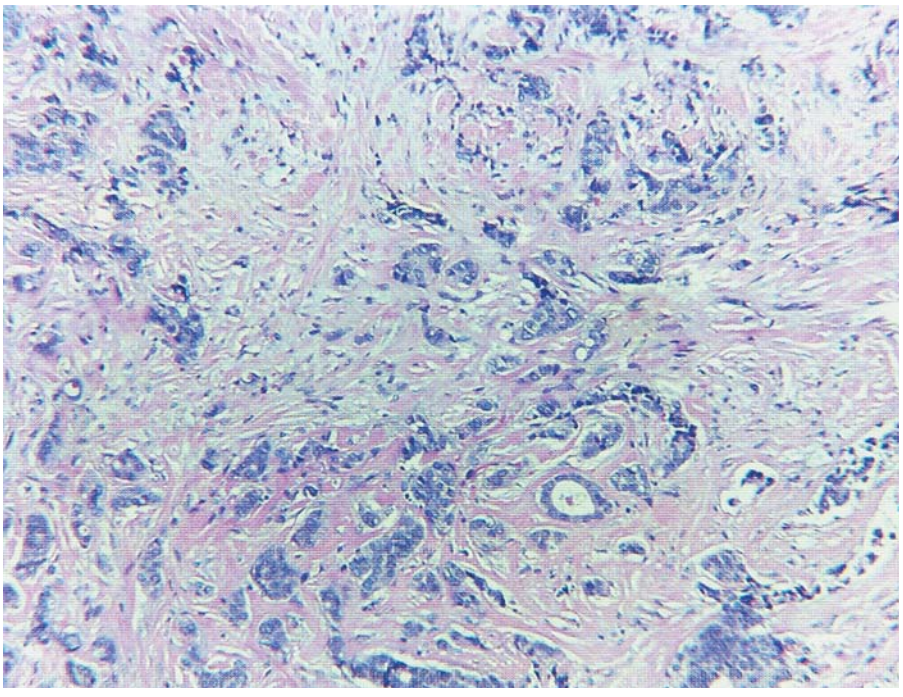

Figure 3. Breast biopsy shows nests and strands of invasive carcinoma forming ductlike structures (H&E, original magnification ×20).

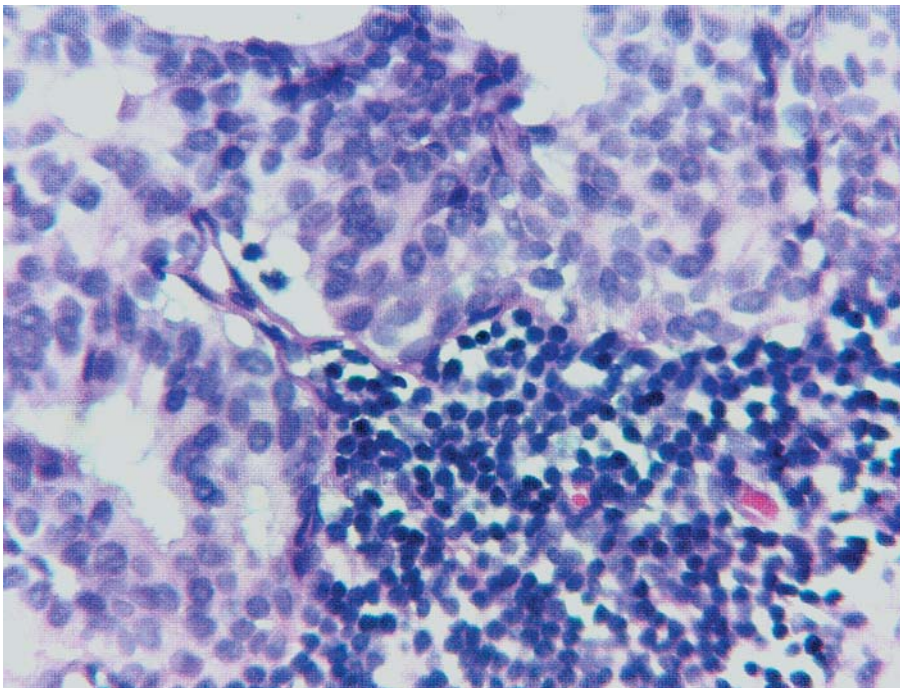

Figure 4. Lymph-node biopsy with normal-appearing nodal cells surrounded by neoplastic invasive carcinoma, which stains lighter (H&E, original magnification ×40).

lymph node was biopsied. The lymph node contained metastatic adenocarcinoma (Figure 4). Estrogen- and progesterone-receptor analyses were positive in 90% and 5% of the neoplastic cells, respectively (Figure 5). Serum estradiol, estrone, and follicle-stimulating hormone levels were within normal limits. After surgery, the patient was referred to a radiation oncologist; he is currently receiving radiation therapy to the right chest wall. At the time of this writing, hormone therapy using tamoxifen is being considered.

Comment

This patient presented with the classic (though rare in a male) clinical features of breast cancer. In addition to a breast mass and nipple retraction, other initial findings may include nipple discharge, redness and scaling of the nipple and/or areolar area, and local swelling. Gynecomastia may coexist with breast cancer. As described in the literature, symptoms last from 18 weeks[3] to 6 months.[5] Unfortunately, this condition is often overlooked during routine well visits because breast examinations are rarely done in males.[6] The histopathologic range of presentation is similar to that of women, with infiltrating ductal carcinoma being the most common.[7] Although a palpable breast mass in a male should be a cause for concern, benign associations also should be considered in the differential diagnosis. These include gynecomastia; fibrocystic breast disease; and benign neoplasms of the soft tissue, muscles, and nerves. The most common cause of a benign mass is gynecomastia, which tends to be firm, symmetric, and tender.[6] It can be unilateral or bilateral. Interestingly, adherence to the overlying skin is not useful in distinguishing gynecomastia from breast carcinoma.[6]

A number of possible causes and/or predisposing factors for male breast cancer have been cited. Hormone abnormalities associated with estrogen metabolism seem to play a role. Specific disease states such as cirrhosis of the liver, obesity, and testicular disease all may influence hormonal balance. Klinefelter syndrome, with its associated estrogen excess, may account for about 3% of male breast cancer cases.[8] Radiation exposure,[9] age, and genetic predisposition through male or female relatives with breast cancer also may play roles.[4]

Therapy for primary male breast cancer, as for primary female breast cancer, is multifaceted and depends on tumor staging. The tumor-node-metastasis (TNM) classification is used for women and men: *T* describes tumor size and local infiltration, *N* indicates local lymph-node involvement, and *M* indicates distant organ/lymph-node invasion. Surgical treatment most often involves modified radical mastectomy, adjuvant chemotherapy, radiation therapy, and hormonal manipulation with tamoxifen. All these treatments should be considered; although for tamoxifen, a large percentage of patients need to discontinue use because of side effects.[10]

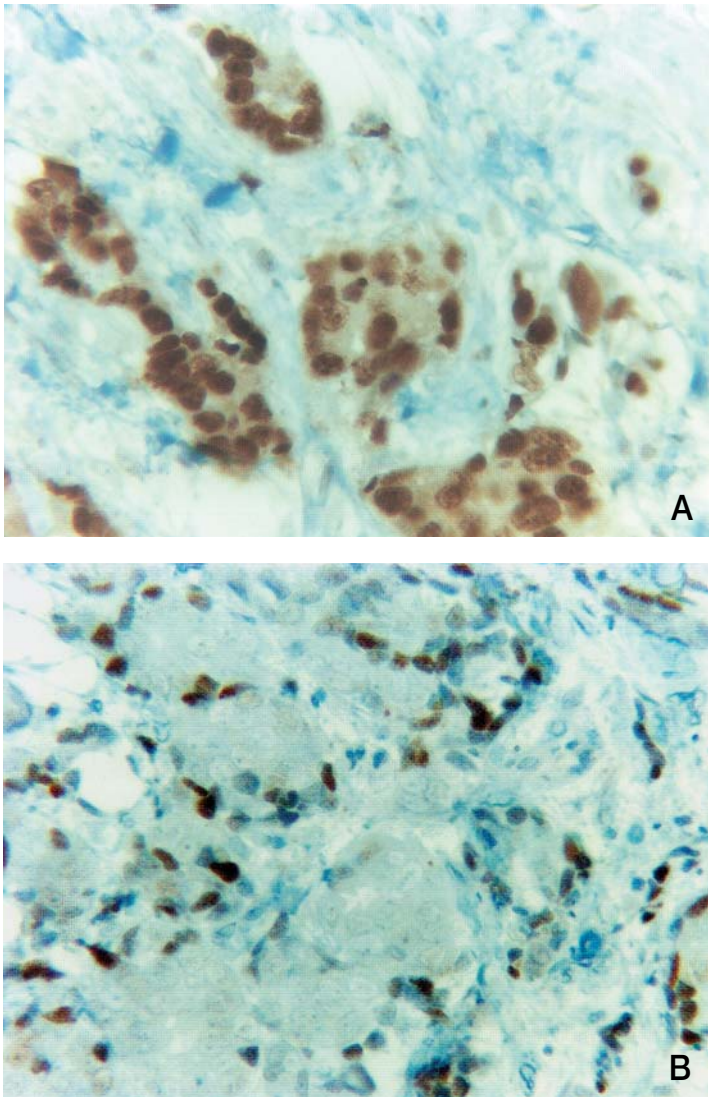

Figure 5. Estrogen-receptor positive staining of neoplastic cells (A). Weak progesterone-receptor positive staining of neoplastic cells (B)(estrogen-receptor immunohistochemistry, original magnification ×40).

In conclusion, male breast cancer, though rare, can be diagnosed early. As dermatologists, we should perform a thorough examination.

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