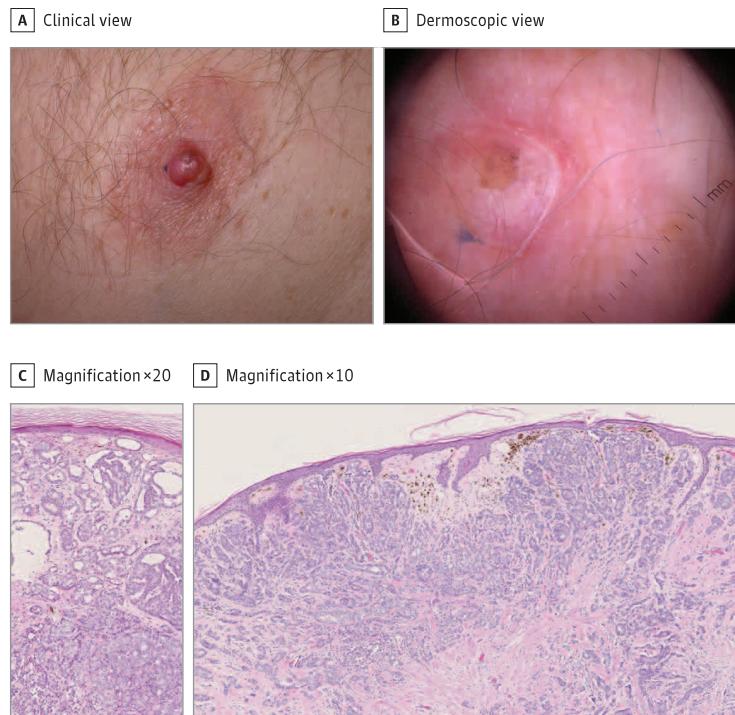


## JAMA Dermatology Clinicopathological Challenge

## A Translucent Nodule of the Nipple in an Elderly Male Patient

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**Figure.** A, Clinical image of translucent erythematous nodule of the right nipple (6 mm). B, Dermoscopic findings of a translucent nodule, arborizing vessels, a brownish crusty lesion on top, and blue fluff sign. C and D, Lesional biopsy specimens (hematoxylin-eosin). C, Histological findings of ductal differentiation, plus adenocarcinoma infiltrating the dermis. D, Histological findings of hyperkeratosis of the epidermis, neoplastic glandular pattern, and melanin deposits.

**A male patient in his 70s** presented an asymptomatic, slightly eroded, translucent nodule on his right nipple (Figure, A). There was a family history of cutaneous melanoma in his 2 sisters, daughter, and nephew and breast cancer in his mother and sister. We completed genetic testing of family members and found no genetic mutations in sera samples to predispose them to melanoma skin cancer or breast cancer. The main genes tested were the breast cancer type 1 susceptibility (*BRCA1*), breast cancer 2–DNA repair associated (*BRCA2*), partner and localizer of *BRCA2* (*PALB2*), checkpoint kinase 2 (*CHEK2*), and tumor protein p53 (*TP53*) genes. A dermoscopic examination of the patient showed a translucent lesion with arborizing vessels and erosion (Figure, B). A punch biopsy was performed.

## WHAT IS YOUR DIAGNOSIS?

- A. Basal cell carcinoma
- B. Amelanotic melanoma
- C. Ductal adenocarcinoma of the breast
- D. Erosive adenomatosis of the nipple

## Diagnosis

**C. Ductal adenocarcinoma of the breast**

## Discussion

Histological assessment of the lesion revealed a thinning of the epidermis, with a layer of hyperkeratosis and a proliferation of

neoplastic cells that had created a glandular pattern in the dermis (Figure, C). There was no pagetoid cell proliferation in the epidermis (Figure, D). Immunohistochemistry staining revealed estrogen-receptor positivity, progesterone-receptor positivity, antigen KI-67 at 10%, and a human epidermal growth factor receptor 2 (Her2) score of +2. These findings were consistent with invasive ductal carci-

noma of the breast. An additional clinical examination by a breast cancer specialist highlighted bilateral gynecomastia without any evidence for a palpable mass or adenopathy, although palpation by a pathologist of the specimen subsequently derived from a second resection showed a well-defined mass.

The complete workup for extensive cancer was negative. The patient's serum cancer antigen 15-3 levels were normal. A genetic analysis of the patient's serum revealed no significant mutations. The patient underwent a right mastectomy with sentinel-node mapping. A pathologic examination showed infiltration of the subcutaneous tissue of the nipple by cancer cells organized in the same glandular pattern seen in the first, more superficial surgery. The excision had histologically clear margins, and the sentinel node was negative. The final diagnosis was an invasive ductal carcinoma with a Nottingham grade of 2 and a status of pT1c, pN0, and pMO.

Breast cancer is very rare in men; the male:female ratio is 1:100, and annual incidence is 2:100 000 in the male population.<sup>1</sup> The male breast is composed of fat tissue and ductal structures, and lobular tissue is generally absent. Thus, 90% of male breast cancers are ductal carcinomas.<sup>2</sup> A lower survival rate in men is associated with frequent late diagnosis. The main risk factors for breast cancer in men are *BRCA1* or *BRCA2* mutations and a family history of breast cancer. In this case, mutations were not found in the family, although the patient's mother and sister had been treated for breast cancer.

Clinically, according to Hali et al,<sup>3</sup> in male breast cancer, cutaneous involvement is up to 25%. A subcutaneous mass can be observed, as well as a retraction and/or ulceration of the nipple with or without bleeding or leaking. Rare male breast cancers develop as superficial cutaneous lesions.

Camus et al<sup>4</sup> reported on a series of 19 male patients affected by invasive ductal carcinoma. All had a palpable mass at diagnosis, and 8 (42%) had a nipple retraction. No erosive presentation was highlighted in this report.<sup>4</sup> It is curious to note that, in the case of this patient, no mass had been palpated by the patient, dermatologist, or breast cancer specialist, but rather the pathologist on the specimen from the second resection.

A broad differential diagnosis has to be taken into account during examination of an erosive nodular lesion on the nipple. Basal cell carcinoma (BCC) of the nipple is rare and often diagnosed in patients with excessive sun exposure on the trunk.<sup>5</sup> In this patient, an initial misdiagnosis of BCC was probably attributable to the small lesion size and presence at dermoscopy of erosion and arborizing telangiectasia.<sup>6</sup> However, these findings are nonspecific to BCC. Arborizing vessels are visible in various malignant tumors.<sup>7</sup> Moreover, the absence of discharge and a palpable mass were equally misleading and in favor of BCC as a first diagnosis. Although nipple discharge has been described in BCC of the nipple,<sup>8</sup> it is generally absent. A few elements described in literature in cases of BCC of the nipple and areola complex, including a grayish veil, spoke-wheel areas, and leaflike structures, were absent in this patient.<sup>9</sup>

Achromic melanoma of the nipple should be considered as a diagnosis, especially because of the patient's positive family history. Dermoscopic findings could be compatible with this diagnosis.

Finally, erosive adenomatosis of the nipple develops from milk ducts. It is more frequent in middle-aged women, and it is constantly painful. Its clinical presentation usually consists of an erosive crusty nodule of the nipple. Histological testing shows a proliferation of glandular and duct structures with a plasmocytic infiltrate. According to 1 case report,<sup>10</sup> dermoscopic inspection should be able to recognize erosive adenomatosis as a yellowish hyperkeratosis with sparse dotted vessels on a reddish-whitish background. Linear vessels on a pinkish background and increased red serpiginous and annular structures can also be observed.<sup>9</sup>

It is important for a dermatologist to know that male breast cancer, although very rare, exists. Cases may have a cutaneous clinical presentation as a translucent, partially erosive nodule of the nipple, mimicking what seems to be a basal cell carcinoma on dermoscopic examination.

The patient underwent radiotherapy and adjuvant tamoxifen therapy. He has been in remission for 2.5 years since surgical treatment.

#### ARTICLE INFORMATION

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**Published Online:** January 8, 2020.  
doi:10.1001/jamadermatol.2019.4253

**Conflict of Interest Disclosures:** None reported.

**Additional Contributions:** We thank the patient for granting permission to publish this information. We thank Dr Zachary Boyce, BSc, MBBS, FACD, Bulimba Dermatology Clinic and South East Dermatology Clinic, Brisbane, Australia, for proofreading this article. He was not compensated for this contribution.

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