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# Skin involvement as the presenting sign of a male breast cancer

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## Abstract

Male breast cancer is a rare disease with an unknown etiopathogenesis. We report a case of a 50-year-old man with a breast cancer revealed by skin involvement.

*Keywords: breast cancer, skin involvement, male breast cancer*

## Introduction

Male breast cancer (MBC) is rare and poorly characterized. As compared to the female counterpart, it is a distinct disease regarding clinicopathological and molecular features. We report herein a case of MBC revealed by skin involvement to draw physicians' attention to this disease and its severity.

## Case Synopsis

A 50-year-old man, who had no family breast cancer history, was evaluated by our department for three painless purple nodules of the right areola (**Figure 1**). The patient reported that the nodules appeared 4 years before his consultation. The clinical examination revealed significant induration underlying the areola (**Figure 1**) with painless ipsilateral axillary lymphadenopathy of 1cm. We performed a skin biopsy, which revealed an invasive

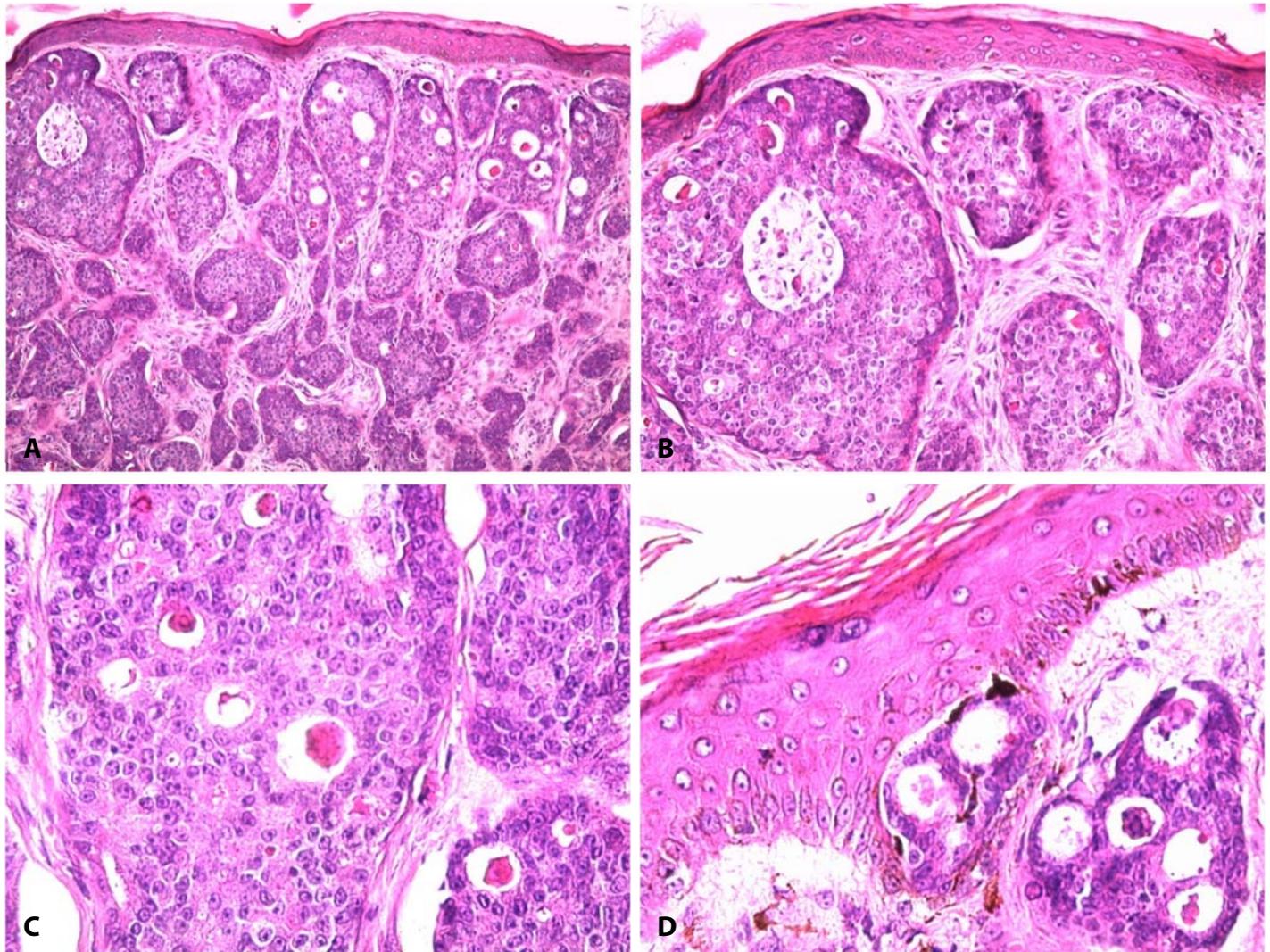
breast cancer grade 2 with direct pagetoid extension into epidermis (**Figure 2**). The tumor was estrogen-receptor-positive (ER+) and progesterone-receptor-positive (PR+), (**Figure 3**). The patient underwent mastectomy with lymph node dissection. Histology confirmed the grade 2 invasive breast cancer with axillary lymph node involvement (T4bN3M0). He underwent radiation therapy and hormonal therapy.

## Case Discussion

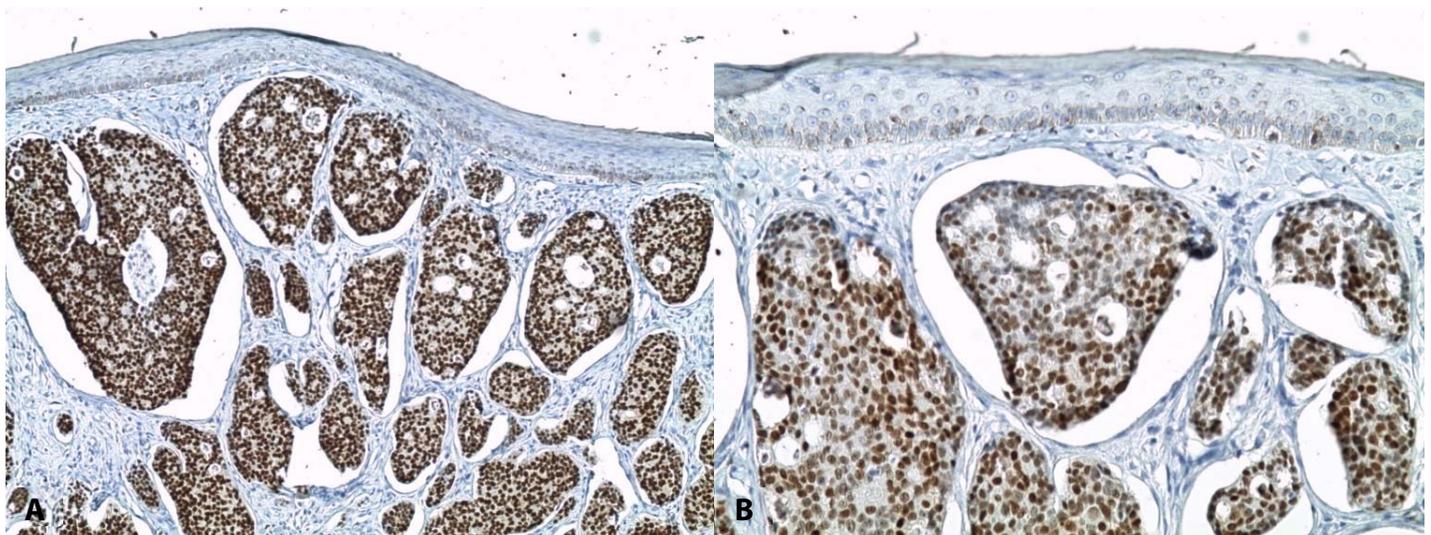
Male breast cancer is a rare disease (0.5 to 1% of breast cancers). The mean age of occurrence is 5 years later than in women. The risk of developing breast cancer in males is higher in patients with a history of familial breast cancer in a first-degree relative [1]. Mutations in high-penetrance BRCA1 and



**Figure 1.** Clinical images showing purple nodules of the right areola.



**Figure 2.** H&E pathology images showing **A)** adenocarcinoma proliferation in dermis, 100×, **B)** cribriform carcinoma of the breast, 200×, **C)** cribriform carcinoma of the breast, 400×, **D)** Pagetoid extension of the tumor to the epidermis 400×.



**Figure 3.** Immunohistological images showing **A)** estrogen-receptor positivity in 100% of cells, 100×, **B)** progesterone-receptor positivity in 98% of cells, 200×.

BRCA2 genes are also risk factors [2]. Occupational risks include high temperature environments and exhaust fumes. Hyperestrogenization resulting from Klinefelter syndrome, gonadal dysfunction, obesity, or excess alcohol all increase risk, as does exposure to radiation [3].

Male breast cancer is usually revealed by breast nodules and nipple retraction or secretions, but rarely by areolar nodules. Delay in diagnosis can result from ignorance of the existence of breast cancer among men.

Men do not have lobules; the mean histological type is invasive ductal carcinoma (85–95%). Estrogen-receptor positivity has been reported in more than 90% of cases, with 92–96% being progesterone-receptor positive [4].

The standard treatment for invasive male breast cancer is wide excision with axillary dissection (clearance or sentinel node biopsy). Indications for

radiotherapy are similar to female breast cancer. Because 90% of tumors are estrogen receptor positive, tamoxifen is standard adjuvant therapy.

## Conclusion

Skin involvement can reveal rare and severe diseases. This case emphasizes the need to consider the diagnosis of breast malignancy for patients presenting with nipple nodules, even in men.

## Potential conflicts of interest

The authors declare no conflicts of interest.

## Acknowledgements

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