

# Images in hematology-oncology

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## A 51-year-old perimenopausal woman with scaling erythematous lesion of the nipple

### CLINICAL HISTORY

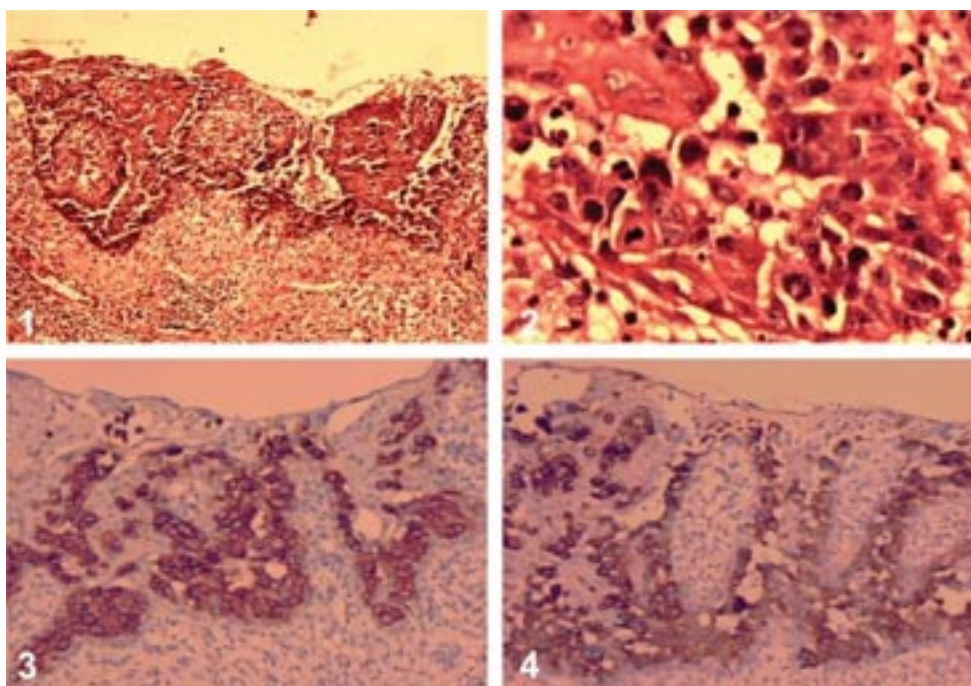
A 51-year-old perimenopausal woman was admitted to the hospital with one year history of scaling erythematous lesion confined to left nipple associated with intermittent discharge. In physical examination there was no palpable mass in either breast. Her past medical history was not significant for any medical conditions. The mammographic examination did not show any significant abnormality. Laboratory tests including complete blood count and blood biochemistry disclosed normal values. An insicional biopsy from left nipple was performed.

The gross examination of the insicional biopsy showed a 1.5x0.8x0.5 cm skin ellipse with a 1x0.8 cm ulcerated lesion. Microscopically, the epithelium showed disordered growth pattern focally involving the entire thickness of the epithelium (Figure 1). Intraepi-

dermal clefting between the basal layer and suprabasal layer and acantholysis was present. There was marked cytologic atypia and nuclear pleomorphism in the cells along the basal layer (Figure 2). Mitotic figures and apoptosis was common.

Mucicarmine stain did not show the presence of mucin within the neoplastic cells. The immunohistochemical studies showed that the anaplastic cells are strongly positive for EMA, c-erb-B2 (Figure 3) and CK-7 (Figure 4) and negative for CEA, S-100 and HMB-45.

### What is your diagnosis ?



## **PATHOLOGIC DIAGNOSIS**

Anaplastic Paget's Disease of the Nipple.

## **DISCUSSION**

Sir James Paget originally described an association between eczematoid changes of the nipple and breast cancer (1). Subsequently it was shown that Paget's disease represents the spread of mammary adenocarcinoma into epidermis. In most cases the carcinoma cells may form a band in deep epidermis or they may be scattered individually throughout the squamous epithelium. They may also form small groups in a lacunar arrangement (2).

The histologic differential diagnosis includes Bowen's disease and malignant melanoma. The distinction is of utmost importance since the treatment and prognosis for these entities are different.

Our case represents a relatively uncommon morphologic variant of Paget's disease. Anaplastic Paget's disease is characterized by full-thickness epidermal growth composed

of pleomorphic cells with high-grade nuclear and cytologic features (3). The histologic features were highly suggestive of Bowen's disease, however, the location of the lesion made this an unlikely diagnosis. Mucin was not detected with mucicarmine stain. The most helpful features which helped in confirming the diagnosis was the identification of an underlying lactiferous duct with high-grade ductal carcinoma in-situ in serial sections and positive staining for EMA, CK-7 and c-erb-B2.

Subsequently, a modified radical mastectomy was performed although a palpable mass or mammographic abnormality was not identified. The mastectomy specimen showed similar morphologic changes in the remaining nipple. Additionally a high grade (comedo type) intraductal carcinoma with focal microinvasion was identified in the subareolar region. The axillary lymph nodes (n=29) were all negative for metastatic carcinoma. The patient did not receive any further treatment and is well six months after mastectomy.

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## **References**

1. Paget J. On disease of the mammary areola preceding cancer of mammary gland. *St. Bartholomew's Hosp Rep* 1874;10:87-9.
2. Rosen PP. *Rosen's Breast Pathology*. 2nd ed. Philadelphia: Lippincott Williams&Wilkins, 2001; 565-79.
3. Rayne SC, Santa Cruz DJ. Anaplastic Paget's disease. *Am J Surg Path* 1992;16:1085-91.