Erosion on the nipple

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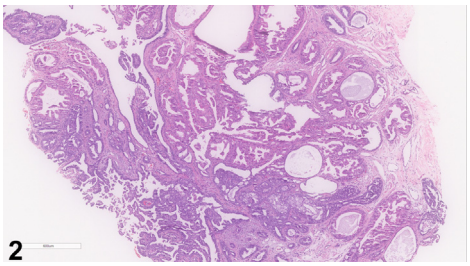

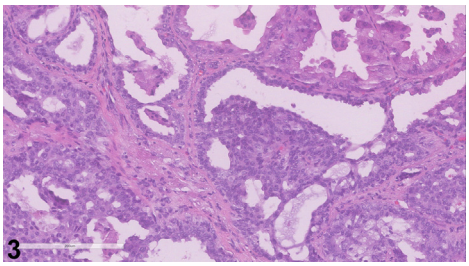

CASE PRESENTATION

A 67-year-old white woman presented with a 12-month history of a nonhealing erosion on her right nipple. She reported intermittent itching, bleeding, and crusting. Physical examination revealed a 1.2 × 1.0-cm erosion on the right nipple (Fig 1). Her medical history was remarkable for chronic lymphocytic leukemia, rheumatoid arthritis, and multiple prior basal cell carcinomas. No other palpable masses within either breast or lymphadenopathy were appreciated. Mammography result was unremarkable. Punch biopsy of the patient's nipple was performed (Figs 2 and 3).

Question 1: Considering clinical and histopathologic images, what is the most likely diagnosis?

A. Nipple dermatitis

B. Hyperkeratosis of the nipple and areola

C. Mammary Paget disease

D. Nipple adenoma

E. Intraepidermal squamous cell carcinoma (SCC)

Answers:

A. Nipple dermatitis—Incorrect. Nipple dermatitis is a localized dermatitis of the nipple-areolar

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complex. It may result from a contact allergy or local irritation, or be a manifestation of atopic dermatitis.

B. Hyperkeratosis of the nipple and areola—Incorrect. Hyperkeratosis of the nipple and areola is an uncommon benign condition that presents with hyperpigmentation and verrucous thickening of the nipple-areolar complex. It may be an extension of an epidermal nevus, part of an underlying dermatosis, or idiopathic.[1]

C. Mammary Paget disease—Incorrect. Mammary Paget disease is a malignant intraepithelial condition of the nipple and periareolar skin. It is usually associated with underlying breast carcinoma.[2]

D. Nipple adenoma—Correct. Nipple adenoma, also known as erosive adenomatosis of the nipple and papillary adenoma of the nipple, is a rarely encountered benign proliferation of the lactiferous ducts. It most commonly presents in women during the fourth to fifth decade of life, with symptoms of unilateral breast pruritus, pain, discharge, and crusting.[3]

E. Intraepidermal SCC—Incorrect. Intraepidermal SCC, also known as Bowen disease and carcinoma in situ, is a superficial form of keratinocyte cancer.

Question 2: Which histologic description correlates with this diagnosis?

A. Atypical keratinocytes throughout all layers of the epidermis, with loss of polarity

B. Orthokeratotic hyperkeratosis, papillomatosis, keratotic plugging, hyperpigmentation, elongated rete ridges, and perivascular lymphocytic infiltrate in the dermis

C. Invasion of the epidermis by Paget cells, which are malignant glandular epithelial cells with hyperchromatic, enlarged, pleomorphic nuclei and abundant pale cytoplasm

D. Spongiosis, perivascular lymphocytic infiltrate, and superficial dermal edema

E. An adenomatous proliferation with an external layer of myoepithelial cells and overlying cuboidal epithelial cells with apocrine secretion

Answers:

A. Atypical keratinocytes throughout all layers of the epidermis, with loss of polarity—Incorrect. This is descriptive of intraepidermal SCC.

B. Orthokeratotic hyperkeratosis, papillomatosis, keratotic plugging, hyperpigmentation, elongated rete ridges, and perivascular lymphocytic infiltrate in the dermis—Incorrect. This is descriptive of hyperkeratosis of the nipple and areola, and may be observed in other dermatoses.[1]

C. Invasion of the epidermis by Paget cells, which are malignant glandular epithelial cells with hyperchromatic, enlarged, pleomorphic nuclei and abundant pale cytoplasm—Incorrect. This is descriptive of mammary Paget disease.[2]

D. Spongiosis, perivascular lymphocytic infiltrate, and superficial dermal edema—Incorrect. This is descriptive of acute eczematous dermatitis.

E. An adenomatous proliferation with an external layer of myoepithelial cells and overlying cuboidal epithelial cells with apocrine secretion—Correct. This is descriptive of nipple adenoma.[3]

Question 3: Which of the following would be the treatment of choice for this patient's condition?

A. A topical retinoid

B. Intralesional fluorouracil

C. Mohs micrographic surgery

D. Radiation

E. Photodynamic therapy

Answers:

A. A topical retinoid—Incorrect. There are no reports of topical retinoids for treating nipple adenoma.

B. Intralesional fluorouracil—Incorrect. There are no reports of intralesional fluorouracil for treating nipple adenoma. It is a treatment option for cutaneous SCC.[4]

C. Mohs micrographic surgery—Correct. Treatment historically of a nipple adenoma has been complete elective excision of the tumor. Mohs micrographic surgery is becoming a more commonly reported and a preferred treatment because of the potential for preservation of the cosmetic nipple unit, complete margin control, and high cure rates.[5]

D. Radiation—Incorrect. There are no reports of using radiation to treat nipple adenoma.

E. Photodynamic therapy—Incorrect. There are no reports of photodynamic therapy in treating nipple adenoma.

Abbreviation used:

SCC: squamous cell carcinoma

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