Low Grade Malignant Proliferating Pilar Tumor Arising from Breast Skin Simulating Squamous Cell Carcinoma, a Case Report

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Received: 11 July 2013 / Accepted: 4 November 2013 / Published online: 13 November 2013
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Introduction

Trichilemmal cysts, also called pilar cysts, are known skin lesions most commonly arise from scalp [1]. Their origin is trichilemma or external outer root sheath. Proliferating pilar tumors (PTTs), thought to arise from these lesions, are much less common and were first reported by Wilson-Jones [2]. These tumors are classified into three groups: benign, locally aggressive, and malignant [3]. Like pilar cysts, PTTs also generally present on the Scalp [4]. Other locations, although much less common, have been reported in the literature: these include the neck, trunk, groin, mons pubis, vulva, and gluteal region; the upper and lower extremities, including the elbow, the dorsum of the hand, and the index finger; the face, including the forehead, nose, eyelid, lip, and intraorally [4–11]. Only one case has been reported to have involvement of breast skin so far as we searched literature [12]. We present a 62-year-old female with low grade malignant proliferating pilar tumor of breast skin simulating squamous cell carcinoma in terms of pathologic characteristics with picture of a well defined round lesion in mammography.

Case Report

A 62-year-old woman had been followed for a hematoma-like 3 cm diameter left breast skin lesion for about 10 months. The lesion was an elevated round non-tender mass with sharp borders and purplish color. The right breast and bilateral axillary fossa were normal in physical examination and imaging studies. Ultra-sound result was in favor of a benign cystic lesion and mammography revealed a round well-defined density in upper inner quadrant of left breast just under the skin. Because of its rapid growing in follow-up mammogram, excisional biopsy of the lesion was done. Pathologic assessment was suggestive of low grade malignant proliferating pilar tumor simulating squamous cell carcinoma (Fig. 1). Metastatic workup showed no evidence of distant metastasis. The patient underwent wide excision of biopsy scar with 2 cm margins. After 3 months follow up the patient is healthy as of 6 months postoperatively.

Microscopic Examination

Sections showed intact epidermis with an underlying well defined partially encapsulated tumor in the reticular dermis. The tumor was composed of lobulated expansile masses of squamous cells with prominent trichilemmal (nonlamellated) keratinization. The tumor cells revealed nuclear enlargement, hyperchromasia, irregular nuclear border, prominent nucleoli surrounded by abundant eosinophilic cytoplasm and moderate number of mitotic figures. Foci of single cell necrosis were noted. Periphery of the lobules showed foci of invasion into the

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Fig. 1 Lobulated mass of atypical squamous epithelium with trichilemmal keratinization. H&E stain (X100)

surrounding stroma. The peripheral stroma showed mononuclear inflammatory infiltrate and foreign body giant cell reaction to keratin. No lymphovascular or perineural invasion was identified. With above histological findings, rapid increase in tumor size, and non scalp location a diagnosis of low-grade malignant pilar tumor was offered.

Conclusion

When meeting the diagnosis of squamous cell carcinoma in a skin lesion including breast skin tumors, the malignant pilar tumor should be considered as a differential diagnosis.

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