PURE APOCRINE NEVUS: A CASE REPORT

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ABSTRACT Apocrine nevi are highly uncommon tumours typically located in the reticular dermis and comprising elevated numbers of mature apocrine glands and ductal structures inside a fibrous stroma. Most seen in the axillae and sometimes in the scalp or parasternal region, apocrine nevi present clinically as solitary or multiple nodules. A case of a 26-year-old male patient with a history of bilateral axillary swelling for 2 months is reported. The ultrasound picture initially showed an accessory breast that was excised surgically. A diagnosis of pure apocrine nevus was supported by the histological picture.

KEYWORDS pure apocrine nevus, axillary mass, accessory breast

Introduction

Apocrine nevi are characterized by a proliferation of mature sweat glands [1, 2]. Complex organoid tumours, such as nevus sebaceous, comprising pilar and sebaceous components commonly contain Hamartomatous growths of ASG [3]. Primarily located in the reticular dermis, the apocrine nevus is a highly uncommon tumour with large numbers of mature apocrine glands and ductal structures in a fibrous stroma [4]. A pure apocrine nevus unrelated to another apocrine proliferation is rare; apocrine nevi have been found associated with Syring cystadenoma papilliform, apocrine carcinoma, and extramammary Paget disease [5]. Clinical presentation of apocrine nevi typically includes solitary or multiple nodules commonly in the axillae, but also on the scalp or parasternal skin.

Pure apocrine nevi (PAN) are congenital benign tumours histologically containing large quantities of mature apocrine glands that extend to the subcutis from the reticular layer of the dermis [6]. In this report, we present a case of pure apocrine nevus with studied immunohistochemistry.

Case report

A 26-year-old male, with no significant medical history, presented with bilateral axillary swelling for 2 months. It was a subcutaneous, soft, skin-coloured nodule measuring 3.3 cm and 4.0 cm on the right and the left side respectively the lesions were non-tender with no discharge or discoloration. Ultrasound was done and showed a picture of the accessory breast. The patient had an unremarkable medical history, was in good general condition, and was not taking any medication. The patient underwent bilateral masses excision.

Grossly, right axillary mass” consists of an unoriented ellipse of skin measures 3x3 cm with underlying fatty tissue measuring 3x3x2, serial sectioning reveals unremarkable homogeneous cut surface. “Left axillary mass” consist of an unoriented ellipse of skin measures 4x3cm with underlying fatty tissue measuring 4x3x2, serial sectioning reveals an unremarkable homogeneous cut surface.

Histopathological examination showed an unencapsulated lobular pattern of dilated apocrine glands extending to subcutaneous fat they tended to be well-circumscribed (Figure.1A). The glands are lined by secretory cells which are cuboidal cells with uniform nuclei and absent nucleoli, occasionally showing decapitation secretion. The cytoplasm is abundant eosinophilic (Figure.1B). No mitosis or atypia is seen.

Immunohistochemically, epithelial membrane antigen (EMA) and carcinoembryonic antigen (CEA) were expressed on the luminal surface of secretory cells and in intercellular canaliculi. Gross cystic disease fluid protein (GCDFP)15 was expressed in the cytoplasm of most secretory cells and, by the apical pole of some luminal excretory duct cells. Keratin 7 was expressed in the cytoplasm of secretory cells. The Ki-67 proliferation antigen was expressed by rare basal cells of the excretory coils. (Figure 2)
Discussion

Apocrine nevus or apocrine gland hamartoma comprises an elevated number of mature apocrine glands [7]. The clinical presentation typically includes a persistent skin-coloured pedunculated or skin-coloured axillary mass. Apocrine nevi have been found on the scalp, inguinal region, face, and chest. Typically asymptomatic, apocrine nevi can sometimes cause mild tenderness, and, less commonly, drainage or alopecia as described in some case reports [8]. Literature review showed that apocrine nevi have a male predominance of 2:1, variable age of presentation ranging from 7 to 89 years, and lesion size that varies between less than 1 cm to 8 cm. Apocrine nevi may be congenital and, if present in childhood, may proliferate at puberty most likely due to hormonal changes [9].

Since pure apocrine nevi (PAN) have no clinically distinguishing features, they may be mistaken for cysts, lipomas, or, when localized in the axilla, hidradenitis suppurativa [8]. The presentation of PAN typically comprises well-circumscribed, dome-shaped fleshy nodules that range from 1 to 9 cm in size. They have also been reported to present as multiple pinhead-sized papules in one case report [9]. They most often appear associated with nevus sebaceous or syringocystadenoma papilliferum, though uncommonly they are seen without other associated lesions [11]. Histologically, the apocrine glands show an increase in quantity more than another area of skin and show will circumscribed pattern, but no capsule is seen. The overlying epidermis is typically uninvolved, with an epidermal basoloid proliferation described in 1 case [12]. The glands’ proliferation can extend to the reticular dermis and subcutaneous fat. The stroma is occasionally delicate fibrous.

Normal axillary apocrine glands are only a few millimeters thick, whereas the thickness of glands in these cases ranged from 5 to 8 mm. The glands are lined by simple columnar or cuboidal cells with brightly eosinophilic cytoplasm. The myoepithelial cells around the gland are appreciated. Decapitation secretion is a frequent finding, with the lumen containing an amorphous eosinophilic material. The lesion lacks nuclear atypia, necrosis, and mitotic figures. Although apocrine nevi are benign, some case reports suggest that, although rare, apocrine nevi may progress to apocrine carcinoma [12, 13]. Nishikawa et al [13] reported a case of bilateral axillary apocrine nevi with unilateral transformation into an apocrine carcinoma. The possibility of malignant transformation requires follow-up despite the benign diagnosis.

The immunohistochemical stains in apocrine lesions, such as Figure 2: a: Epithelial membrane antigen (EMA) and b: carcinoembryonic antigen (CEA) were expressed on the luminal surface of secretory cells and in intercellular canaliculi. c: Keratin 7 was expressed in the cytoplasm of secretory cells. d: Gross cystic disease fluid protein (GCDFP)15 was expressed in the cytoplasm of most secretory cells and, by the apical pole of some luminal excretory duct cells. e. The Ki-67 proliferation antigen was expressed by rare basal cells of the excretory coils.
as apocrine nevi, have been investigated. Cytokeratin, CA72.4, p63, CD15, and carcinoembryonic antigen (CEA) are generally present in sudoriferous tumours [14]. CEA is contained and secreted by both eccrine and apocrine glands. Both ductal and secretory cells secrete CEA in apocrine tumours. Eccrine-derived lesions are seen to be positive for S100 more commonly than apocrine-derived lesions. EMA positivity is more frequently seen in malignancies of eccrine and apocrine derivation. Routine haematoxylin and eosin stains were used in making these diagnoses, with no additional ultrastructural studies being conducted or immunohistochemical stains being used on the specimens [12].

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**Conflict of Interest**

There are no conflicts of interest to declare by any of the authors of this study.

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