

Eccrine poroma: Insights of its occurrence and differentials in the maxillofacial region

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INTRODUCTION

A poroma is a benign tumor arising from the acrosyringium (the intraepidermal part of a sweat gland duct). This report describes the case of an eccrine poroma (EP) involving the right thigh. However, EP can involve any cutaneous surface. A poroma usually presents as a slow-growing ulcerated nodule. In the head-and-neck region, it mimics other common tumors arising from dermal adnexal structures. Microscopic examination of the lesion enables final diagnosis of such cases. Poromas are not commonly encountered by oral and maxillofacial specialists because of their low frequency in the head-and-neck region. However, occasionally, the oral and maxillofacial region may exhibit these lesions.^[1-4] Oral and maxillofacial specialists should be familiar with the clinicopathological features of such lesions. This case report discusses the clinical and microscopic features of EPs.

CASE REPORT

A 64-year-old woman presented with a gradually enlarging painless mass on the medial aspect of the right thigh. The patient's history revealed that the lesion has been small since its appearance, but. It had gradually increased in size over 18 months. A pedunculated growth was observed involving the skin of the medial aspect of the right thigh [Figure 1a]. The lesion showed multiple papillary projections of a violaceous hue. The lesion on

palpation was nontender and firm to touch. Based on our findings, a working diagnosis of a benign skin tumor was made.

The lesion was completely excised under local anesthesia and submitted for pathological examination. The length, width and thickness of the excised specimen were 35 mm, 18 mm and 14 mm, respectively. It was brown with a cauliflower-like surface [Figure 1b]. A narrow stalk was also visible at the inferior aspect of it. The cut surface of the tumor was gray-white, smooth, firm and homogeneous.

A microscopic examination of the lesion revealed proliferation of epidermal cells in the form of broad anastomosing cords extending into the dermis. The border between the epithelial proliferation and the stroma was well defined. The tumor cells showed round-to-ovoid vesicular nuclei and moderate amounts of cytoplasm. Occasional duct-like structures were also identified. The supporting stroma consisted of loosely arranged collagen fibers, numerous blood vessels and fibroblasts and exhibited a moderate chronic inflammatory response [Figure 1c and d]. The microscopic findings suggested that the lesion was an EP.

The tumor cells revealed cytoplasmic expression of cytokeratin (CK)-5, CK-14, carcinoembryonic antigen and epithelial membrane antigen [Figure 2a-d].

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The postoperative course was uneventful. The patient was followed up monthly for 6 months. Two years later, the patient was symptom free with no evidence of recurrence.

DISCUSSION

Poromas comprise a group of benign adnexal neoplasms that show proliferation of cells of the terminal portions of sweat gland duct (poroid cells). EPs were first described by Pinkus *et al.* in 1956.^[5] The apocrine equivalent of a poroma has also been described.^[6] Although poromas can occur on almost any cutaneous site, they predilect acral locations. Poromas are most commonly seen on the soles and palms, probably because of the high density of sweat glands in these sites. They are not commonly encountered

in the head-and-neck region. The presence of multiple poromas is known as poromatosis.^[7]

The frequency of appendageal skin tumors in the head-and-neck region is 0.08%.^[8] Few reports have described the occurrence of poroma in the head-and-neck region. In the maxillofacial region, such lesions may be confused with other common cutaneous lesions such as basal cell carcinoma and seborrheic keratosis. Table 1 shows the salient clinical and microscopic features that differentiate poromas from other cutaneous lesions arising in the maxillofacial region. Thus, appendageal skin tumors should be included in the list of differential diagnoses for cutaneous growths arising on the face.

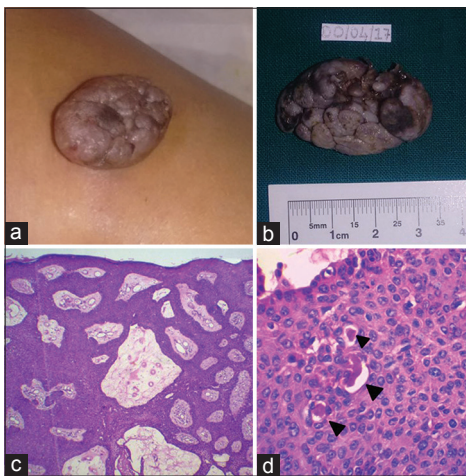


Figure 1: (a) Pigmented polypoid lesion involving the medial aspect of the right thigh, (b) excised lesion exhibiting a cauliflower-like surface, (c) proliferation of poroid cells against the background of loosely arranged stroma (H&E, ×4) (d) tumor cells showing oval vesicular nuclei and moderate amounts of cytoplasm. Note vague duct-like structures with eosinophilic material in their lumina (black arrow) (H&E, ×40)

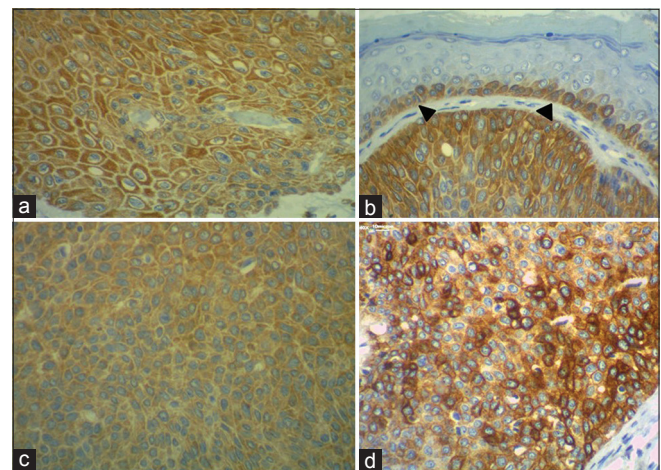


Figure 2: (a) Tumors cells showing cytoplasmic expression of cytokeratin-5 (immunohistochemical, ×40), (b) tumor cells showing cytoplasmic extension of cytokeratin-14. Note the staining of basal cells of the epidermis as an internal control (immunohistochemical, ×40) (c) cytoplasmic and membranous staining of epithelial membrane antigen in tumor cells (immunohistochemical, ×40), (d) cytoplasmic expression of carcinoembryonic antigen by tumor cells (immunohistochemical, ×40)

Table 1: Differential diagnosis of eccrine poroma in the maxillofacial region

	Clinical presentation	Histological features	Immunohistochemistry
Basal cell carcinoma	Pigmented nodule with central ulceration and rolled margins; predilection for the sun-exposed areas of the face	Proliferation of basaloid cells in the dermis, peripheral palisading and basosquamous whorling	EMA ⁺ (only in squamoid and keratotic areas) BerEp4 ⁺ CK19 ⁺ CD10 ⁺
Keratoacanthoma	Firm nodule with central ulcer and keratin extrusion on the sun-exposed areas of the face	Pushing type of growth of the epidermis; pseudoepitheliomatous hyperplasia and abundant extruded keratin in the central crater	CK ⁺ EMA ⁺ (can be used to find atypical cells in the dermis to rule out invasion)
Seborrheic keratosis	Flat, patchy or pedunculated nodule with pigmentation	Well-circumscribed proliferation of the basaloid cells in the juxta-epithelial connective tissue and keratin-filled horn cysts are characteristic features	CK ⁺ EMA ⁺ CK19 ⁻ BerEp4 ⁻ (to rule out basal cell carcinoma)
Eccrine poroma	Flesh-colored or pigmented papule, plaque or a nodular growth with central ulcer or a pedunculated cauliflower-like growth, which may show pigmentation	Proliferation of poroid cells in the dermis; proliferation is connected with the epithelium; absence of horn cysts, pushing growth, peripheral palisading of basal cells or pseudoepitheliomatous hyperplasia	CK5 ⁺ CK14 ⁺ EMA ⁺ CEA ⁺

EMA: Epithelial membrane antigen, CEA: Carcinoembryonic antigen, CK: Cytokeratin, CD: Cluster of differentiation, BerEp4: Antihuman epithelial antigen stain

Moore *et al.* compared the poromas arising on the extremities with those arising in the head-and-neck region. They reported that the poromas arising on the extremities are usually pigmented and they may be painful, may exhibit bleeding, produce discharge and grow rapidly. By contrast, poromas in the head-and-neck region are less likely than those on the extremities to exhibit pigmentation, bleed, produce discharge, cause pain and grow rapidly.^[6] Similar to Moore's report, our patient's tumor showed pigmentation. However, it showed slow growth and did not cause pain, produce discharge or exhibit hemorrhage. Few reports have described rapid growth of poromas during pregnancy also.^[9] Some EPs (approximately 18%) transform into malignant lesions, namely eccrine porocarcinomas.^[10] Thus, complete surgical removal and subsequent microscopic examination are necessary. We also recommend that patients with EP should be followed up postoperatively to prevent the recurrence because recurrence may be a predisposing factor for transformation to malignancy.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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