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CASE REPORT

Solitary Apocrine Adenoma of the Cheek: A Rare Benign Adnexal Tumor

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Abstract

Apocrine adenoma is a rare benign adnexal tumor arising from apocrine sweat glands and usually presents as a solitary slow-growing nodular lesion. Because of its nonspecific clinical appearance, it is often misdiagnosed clinically as other adnexal tumors or vascular lesions. Histopathological examination remains the cornerstone for definitive diagnosis.

We report a case of a middle-aged woman who presented with a solitary asymptomatic nodular swelling over the left cheek of six months duration. Clinical examination revealed a well-circumscribed dome-shaped erythematous nodule. Excisional biopsy was performed. Histopathology demonstrated a well-defined dermal tumor composed of multiple tubular and papillary structures lined by a dual layer of epithelial cells with luminal eosinophilic secretions consistent with apocrine differentiation. These features confirmed the diagnosis of apocrine adenoma.

Apocrine adenoma is an uncommon tumor with characteristic histopathological features. Recognition of this entity is important to differentiate it from other adnexal neoplasms and malignant tumors. Complete surgical excision remains curative with excellent prognosis.

Keywords: Eccrine Spiradenoma; Apocrine Adenoma; Eccrine Glands; Appendageal Tumor; Female

Introduction

Cutaneous adnexal tumors represent a heterogeneous group of neoplasms arising from hair follicles, sebaceous glands, and sweat glands. Apocrine adenoma is a rare benign tumor derived from apocrine sweat glands. It most commonly occurs on the scalp, axilla, eyelid, and anogenital region where apocrine glands are abundant. However, involvement of the face is uncommon.

Clinically, apocrine adenoma presents as a solitary, slow-growing, well-circumscribed papule or nodule. Because of its variable clinical appearance, it may mimic other benign or malignant skin tumors such as basal cell carcinoma, adnexal tumors, hemangioma, or epidermoid cyst.

Histopathological examination is essential for diagnosis. The tumor typically demonstrates tubular and papillary structures lined by a dual layer of epithelial cells showing decapitation secretion, a hallmark of apocrine differentiation.

Here we report a rare case of solitary apocrine adenoma of the cheek, highlighting the clinicopathological features and differential diagnoses.

Case Report

A middle-aged female patient presented to the dermatology outpatient department with a solitary swelling over the left cheek of approximately six months duration. The lesion gradually increased in size but remained asymptomatic. There was no history of trauma, bleeding, ulceration, or discharge from the lesion.

The lesion had gradually increased in size over the 5-year duration without associated pain or discharge."

On dermatological examination, a well-defined dome-shaped erythematous nodule measuring approximately 1 cm in diameter was present on the left cheek. The surface appeared smooth and shiny. The lesion was firm in consistency and non-tender on palpation. No regional lymphadenopathy was noted. The rest of the cutaneous examination was unremarkable.

Clinical differential diagnoses included pyogenic granuloma, adnexal tumor, basal cell carcinoma, and hemangioma.

The lesion was completely excised under local anesthesia and sent for histopathological examination.

Microscopic examination revealed epidermis with mild acanthosis overlying a well-circumscribed dermal tumor. The tumor was composed of numerous tubular and papillary structures arranged in lobules within the dermis. The tubules were lined by two layers of epithelial cells consisting of an inner columnar secretory layer and an outer myoepithelial layer. The luminal cells showed eosinophilic cytoplasm with decapitation secretion, indicating apocrine differentiation. Luminal eosinophilic secretory material was also observed.

No cytological atypia, mitotic figures, or necrosis were noted. These histopathological features were consistent with the diagnosis of apocrine adenoma.

The postoperative period was uneventful, and the patient was advised regular follow-up. At follow-up visits, no recurrence was noted.

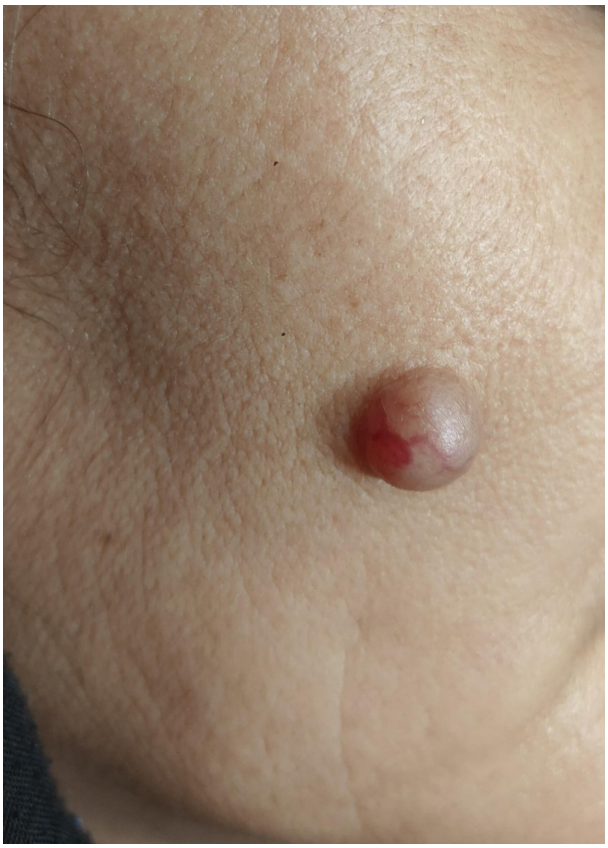

Figure 1: Clinical photograph showing a solitary, well-circumscribed, dome-shaped erythematous nodular lesion over the left cheek

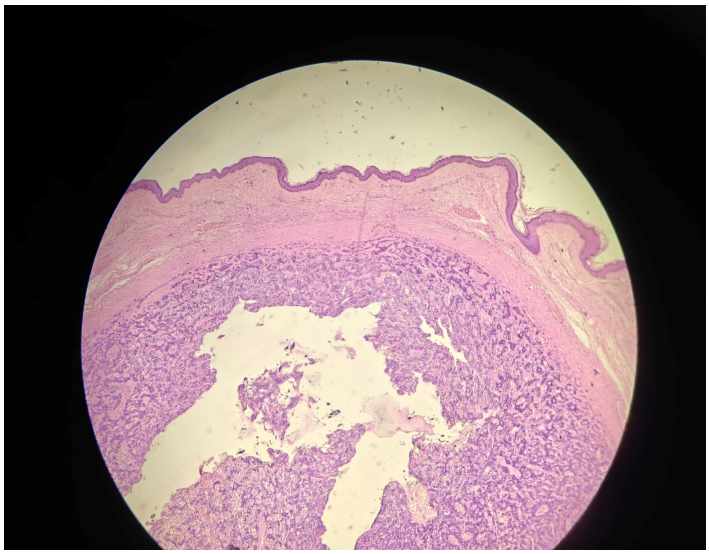

Figure 2: Low-power photomicrograph showing a well-circumscribed dermal tumor beneath the epidermis composed of lobulated epithelial proliferation (Hematoxylin and eosin stain, ×40).

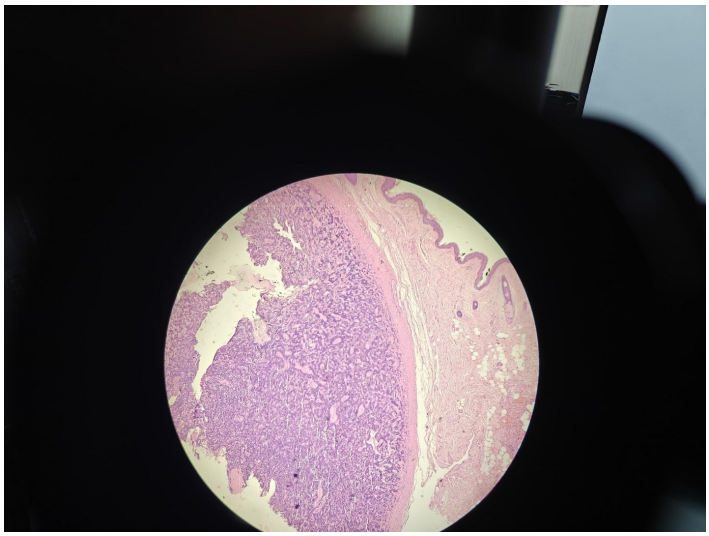

Figure 3: Medium-power view demonstrating multiple tubular and papillary structures arranged within the dermis, forming gland-like spaces (Hematoxylin and eosin stain, ×100).

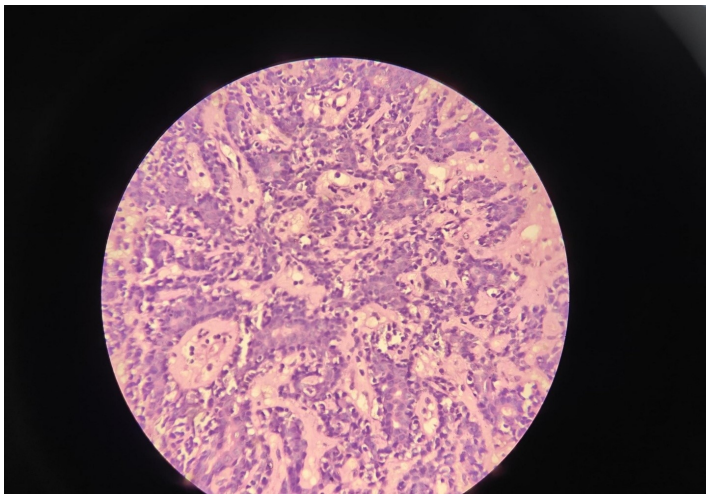

Figure 4: High-power photomicrograph showing tubules lined by a dual layer of epithelial cells with luminal eosinophilic secretions consistent with apocrine differentiation (Hematoxylin and eosin stain, ×200).

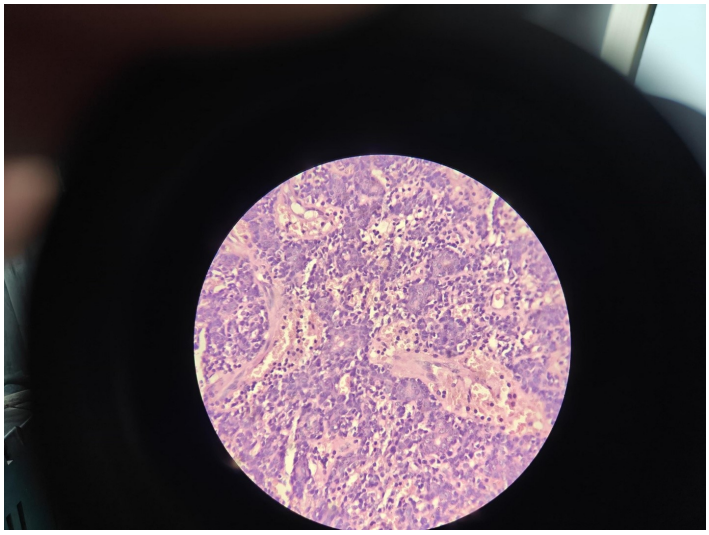

Figure 5: Higher magnification demonstrating characteristic apocrine secretory activity with decapitation secretion within glandular lumina (Hematoxylin and eosin stain, ×400).

Discussion

Eccrine spiradenoma is a rare benign adnexal neoplasm characterized by eccrine differentiation and distinctive histopathological architecture. It most commonly presents as a solitary, slow-growing dermal nodule and is classically described as painful; however, asymptomatic lesions, as seen in the present case, are not uncommon [1].

Facial involvement is relatively uncommon and may pose a diagnostic challenge due to its nonspecific clinical appearance. In our patient, the lesion clinically resembled other benign and vascular tumors, emphasizing the importance of clinicopathological correlation. Differential diagnoses considered included pyogenic granuloma, hemangioma, basal cell carcinoma, and adnexal tumors. The absence of rapid growth, ulceration, or bleeding, along with firm consistency, helped narrow the clinical possibilities.

Histopathological examination remains the gold standard for diagnosis. The defining features include a well-circumscribed dermal tumor composed of lobules with a biphasic population of basaloid cells—small dark peripheral cells and larger pale central cells—with focal ductal differentiation and intratumoral lymphocytes [2]. These features were clearly demonstrated in our case, confirming the diagnosis.

Although eccrine spiradenoma is benign, long-standing lesions warrant evaluation due to rare reports of malignant transformation (spiradenocarcinoma), particularly in lesions showing rapid enlargement, ulceration, or cytologic atypia [3] No such features were identified in the present case.

Complete surgical excision remains the treatment of choice and is generally curative, with a low risk of recurrence. Our patient showed no evidence of recurrence on follow-up, further supporting the benign nature of the lesion.

This case highlights the importance of considering eccrine spiradenoma in the differential diagnosis of solitary facial nodules and reinforces the critical role of histopathological evaluation in establishing a definitive diagnosis.

Clinical Differential Diagnosis

The differential diagnosis of a solitary, slow-growing facial nodule includes:

Pyogenic granuloma – typically presents as a rapidly growing, friable vascular lesion with a tendency to bleed; absent in our case.

Hemangioma – usually soft, compressible, and may show color change on pressure, unlike the firm consistency observed here.

Basal cell carcinoma – may present as a nodular lesion with telangiectasia or ulceration; these features were not present clinically.

Epidermoid cyst – generally shows a central punctum and cheesy discharge, which were absent in this case.

Other adnexal tumors – including hidradenoma and trichoepithelioma, which can present as firm dermal nodules and require histopathological distinction.

Histopathological Differential Diagnosis

On microscopy, the key differential diagnoses include:

Cylindroma – shows jigsaw puzzle–like nests surrounded by thick hyaline basement membrane, unlike the lobular architecture of spiradenoma.

Hidradenoma – lacks the characteristic biphasic cell population and prominent intratumoral lymphocytes seen in spiradenoma.

Trichoepithelioma – demonstrates follicular differentiation with papillary mesenchymal bodies, which were absent in this case.

Basal cell carcinoma – shows peripheral palisading and stromal retraction, without ductal differentiation or lymphocytic infiltrate.

Spiradenocarcinoma – demonstrates cytologic atypia, increased mitotic activity, and infiltrative growth, none of which were observed in the present case.

"The absence of inflammatory signs and vascular features further reduced the likelihood of reactive or vascular lesions."

Conclusion

Eccrine spiradenoma is a rare benign adnexal tumor that may present with nonspecific clinical features, particularly when occurring at uncommon sites such as the face. Accurate diagnosis relies on histopathological evaluation demonstrating characteristic biphasic cell populations and ductal differentiation. Early recognition and complete surgical excision ensure excellent prognosis with minimal risk of recurrence.

Key Diagnostic:

"The presence of a well-circumscribed dermal tumor with biphasic cell population, ductal differentiation, and intratumoral lymphocytes is diagnostic of eccrine spiradenoma."

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