RESEARCH PAPER

Eccrine Hidrocystoma of the periorbital region: A Case Report

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ABSTRACT

Background: Eccrine hidrocystoma is a benign cystic lesion arising from the eccrine sweat ducts, first described by Robinson in 1893. It usually appears over the head and neck region, especially in the periorbital area, as a transparent, dome-shaped papule. Although these lesions are frequently asymptomatic, they may exhibit seasonal change, becoming larger in hot, muggy weather because of increased sweat retention. Accurate diagnosis is crucial since, despite being benign, eccrine hidrocystomas can mimic other periocular tumors as apocrine hidrocystoma, syringoma, milia, and even basal cell carcinoma. The gold standard for conclusive diagnosis and distinction is still histopathological investigation. **Case Presentation:** We report a case of a 22-year-old female who presented with two asymptomatic, gradually progressive swellings near the lateral canthus of the right eye for six months. A dermatological examination showed smooth-surfaced, dome-shaped, transparent, cystic papules that were around 3–4 mm in diameter and had normal skin on top. The lesions showed seasonal fluctuation and were not painful. Eccrine hidrocystoma was tentatively diagnosed based on clinical characteristics. For both cosmetic and diagnostic purposes, surgical excision was carried out. The diagnosis of eccrine hidrocystoma was confirmed by histopathological investigation, which showed a unilocular cyst bordered by one to two layers of cuboidal epithelial cells lacking decapitation secretion. During the follow-up period, there was no recurrence and the postoperative phase was uncomplicated. **Conclusion:** Eccrine hidrocystoma is an uncommon but important differential diagnosis of periocular cystic lesions. To prevent incorrect diagnoses and needless treatments, it is essential to identify its distinctive clinical characteristics and get histological confirmation. With outstanding cosmetic results and a low chance of recurrence, surgical excision offers final treatment.

Keywords: Hidrocystoma, Eccrine hidrocystoma, Periorbital cyst, Eyelid lesion

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INTRODUCTION

Eccrine hidrocystoma is a benign cystic lesion arising from the eccrine sweat glands, characterized by cystic dilatation of the eccrine duct due to retention of sweat. Since Robinson's initial description of the condition in 1893, it has been acknowledged as a significant entity among skin adnexal tumors [1,2]. Based on their histogenesis, hidrocystomas are often divided into eccrine and apocrine forms, each of which has unique histological and clinical characteristics [4].

Small (1–6 mm), tense, dome-shaped, translucent papules that are usually skin-colored or slightly bluish are the typical presentation of eccrine hidrocystomas. Although other parts of the face and neck may also be affected, these lesions are most commonly found in the periorbital area, especially at the edges of the eyelids [2,3]. They are generally asymptomatic but may cause cosmetic concern to patients. Their propensity to swell in hot and muggy weather as a result of increased eccrine sweat production is a noteworthy characteristic that frequently exhibits seasonal variation [3,12]. Two clinical variants of eccrine hidrocystoma have been described: the solitary form (Smith type) and the multiple form (Robinson type). While the multiple type may be linked to systemic disorders like Goltz syndrome and ectodermal dysplasia, the solitary type is more prevalent and usually manifests as a single lesion [4,11]. Sweat retention and subsequent cystic dilatation are caused by obstruction of the eccrine duct [9].

Clinically, apocrine hidrocystoma, syringoma, milia, epidermoid cyst, and basal cell carcinoma in atypical presentations must be distinguished from eccrine hidrocystomas and other cystic and papular lesions of the periocular area [6,10]. Histopathological testing continues to be the gold standard for conclusive diagnosis because of overlapping clinical characteristics [5,8].

To guarantee proper therapy and prevent needless harsh procedures, early and precise diagnosis is crucial. This case emphasizes the significance of clinicopathological correlation and illustrates the usual clinical appearance of eccrine hidrocystoma in a young female.

CASE PRESENTATION

A 22-year-old female presented to the dermatology outpatient department with complaints of two small swellings near the outer corner of her right eye for a duration of six months. The lesions were insidious in onset and gradually progressive in size. The patient did not mention any history of trauma, bleeding, discharge, discomfort, or itching. There was no history of comparable lesions on any other part of the body. She did observe, though, that the lesions seemed to slightly enlarge in warmer weather, indicating seasonal fluctuation.
Upon dermatological inspection, two distinct, transparent, dome-shaped cystic papules were seen next to the right eye's lateral canthus. The bigger lesion had a diameter of around 3–4 mm. On palpation, both lesions were smooth, taut, and non-tender. There were no erythema, ulcers, or indications of inflammation on the skin above. Regional lymphadenopathy was absent.
A tentative diagnosis of eccrine hidrocystoma was made based on the distinctive clinical findings, including location, morphology, translucency, and seasonal change. The identification of the Smith type variation was further reinforced by its solitary character and lack of systemic connections. The benign nature of the lesion and the possible treatments were explained to the patient. Excision was decided to be carried out for both cosmetic and diagnostic purposes.

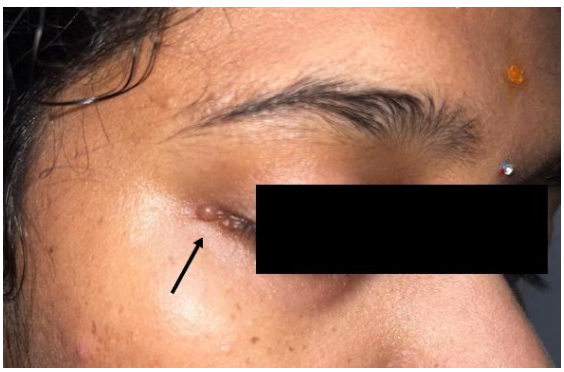

Figure 1: Clinical Image of Eccrine Hidrocystoma

The image shows a small, well-defined, dome-shaped, translucent cystic papule located near the lateral canthus of the right eye. The lesion, which has a diameter of around 3–4 mm, is smooth, tight, and non-tender. There is no erythema, ulceration, or drainage on the skin above. Eccrine hidrocystoma is suggested by the lesion's distinctive translucency, cystic form, and periorbital placement. The lesion of interest is indicated by the arrow.

Histopathology

Histopathological examination of the excised lesion revealed a well-circumscribed unilocular cyst located within the dermis. One or two layers of flattened to cuboidal epithelial cells lined the cyst wall. There was clear fluid and no cell debris in the lumen. Notably, it was distinguished from apocrine hidrocystoma by the lack of papillary projections and the absence of decapitation secretion. There was no discernible inflammatory infiltration in the adjacent dermis. Eccrine hidrocystoma was compatible with these results.

Differential Diagnosis:

Eccrine hidrocystoma should be carefully differentiated from other periocular lesions due to overlapping clinical features. An essential factor to take into account is apocrine hidrocystoma, which histologically exhibits papillary projections and distinctive decapitation secretion. Instead of appearing as transparent cysts, syringomas usually manifest as many tiny, hard, skin-colored papules. Milia are white, keratin-filled cysts that don't have the same transparent appearance as hidrocystomas. Typically, epidermoid cysts are hard, bigger lesions that frequently include a central punctum. Although basal cell carcinoma frequently manifests as ulceration, telangiectasia, and uneven boundaries, it can occasionally resemble cystic tumors. Because of these similarities, a histological study is still necessary to provide a conclusive diagnosis.

Treatment and Follow-up:

Management of eccrine hidrocystoma depends on the size, number of lesions, and cosmetic concerns of the patient. Treatment possibilities include intralesional trichloroacetic acid, topical anticholinergic medications, electrodessication, CO2 laser ablation, needle puncture for short-term relief, and injections of botulinum toxin. Surgical excision, however, continues to be the most effective therapy with the lowest chance of recurrence. In this instance, total surgical excision was carried out. The treatment was well tolerated by the patient, who had

no problems. Three months later, there was no sign of a recurrence, and the cosmetic result was good.

DISCUSSION

Eccrine hidrocystomas are benign cystic lesions that arise due to obstruction of eccrine sweat ducts, resulting in retention of sweat and progressive cystic dilatation [1,9]. Adults are more likely to have these lesions, and women are more likely to have them, especially if they live in warm, humid locations where eccrine gland activity is elevated [2,3]. Because of the great density of eccrine glands in this location, the periorbital region continues to be the most often involved site. Clinically, there are two types of eccrine hidrocystomas: solitary (Smith type) and numerous (Robinson type). The many form has been linked to systemic diseases such Goltz syndrome and ectodermal dysplasia, whereas the solitary form usually manifests as a single transparent cyst [4,11]. Larger or "giant" variations have been documented and may result in functional damage such as ptosis or visual disruption, despite the fact that the majority of lesions are tiny [5].

In order to establish the diagnosis and distinguish eccrine hidrocystoma from apocrine hidrocystoma, histopathology is essential. While apocrine variations have papillary projections and distinctive decapitation secretion, eccrine lesions are characterized by unilocular cysts bordered by one to two layers of cuboidal epithelial cells [6,8]. The number and size of lesions determine the different treatment approaches. Surgical excision, laser therapy, or electrodessication are the final treatments, while conservative techniques including needle puncture and topical anticholinergics may offer short-term relief [7,12]. After total removal, recurrence is rare. In this instance, the diagnosis of eccrine hidrocystoma was supported by the distinctive clinical appearance, location, and histological results; surgical removal produced a superb cosmetic result with no recurrence.

CONCLUSION

Eccrine hidrocystoma is a benign and often under-recognized cystic lesion of the periorbital region. Clinical identification is aided by its distinctive appearance as a transparent, dome-shaped papule with seasonal change. To distinguish it from other lesions of a similar nature, histological evidence is still necessary. In order to avoid incorrect diagnoses and needless procedures, early detection is crucial. Surgical excision offers a permanent solution with minimal recurrence rates and outstanding cosmetic results. This example emphasizes how crucial it is to take eccrine hidrocystoma into account when making a differential diagnosis for periocular cystic lesions, particularly in young girls who show with transparent papules that are asymptomatic.

REFERENCES

1. Robinson AR. Hidrocystoma. *J Cutan Genitourin Dis.* 1893;11:293–303.
2. Sperling LC, Sakas EL. Eccrine hidrocystomas. *J Am Acad Dermatol.* 1992;26(5 Pt 1):780–782.
3. Singh M, Kaur M, Gautam N. Giant eccrine hidrocystoma of the eyelid. *Indian J Dermatol Venereol Leprol.* 2017;83:267.
4. Smith JD, Chernosky ME. Hidrocystomas. *Arch Dermatol.* 1973;108:676–679.
5. Kumar DA, Agarwal A. Giant eyelid eccrine hidrocystoma-induced progressive ptosis in childhood. *Indian J Ophthalmol.* 2017;65(9):884–886.
6. Suimon Y, Kase S, Ishijima K, et al. Clinicopathological features of cystic lesions in the eyelid. *Biomed Rep.* 2019;10:92–96.
7. Khunger N, Mishra S, Jain RK, Saxena S. Multiple eccrine hidrocystomas: Report of two cases treated unsuccessfully with atropine ointment. *Indian J Dermatol Venereol Leprol.* 2004;70:367–369.
8. Lever WF, Schaumburg-Lever G. *Histopathology of the Skin.* 7th ed. Philadelphia: JB Lippincott; 1990.
9. Weedon D. *Weedon's Skin Pathology.* 3rd ed. London: Churchill Livingstone; 2010.
10. Calonje E, Brenn T, Lazar A, McKee PH. *McKee's Pathology of the Skin.* 4th ed. Elsevier Saunders; 2012.
11. Bolognia JL, Schaffer JV, Cerroni L. *Dermatology.* 4th ed. Elsevier; 2018.
12. Sarabi K, Khachemoune A. Hidrocystomas—A brief review. *MedGenMed.* 2006;8(3):57.