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Efficacy of Cauterization for Palpebral Hidrocystoma: A Case Report

Assiya Lemkhoudem[1*], Iliyas Elouirdani[1], Amine Laalou[1], Maria Alfeddy[1], Salaheddine Bouabbadi[1], El Housseine Ait Elhaj[1], Fouad El Asri[1]

[1]Avicenne Military Hospital of Marrakech, Morocco

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***Corresponding author:** Assiya Lemkhoudem
Avicenne Military Hospital of Marrakech, Morocco

Abstract | **Case Report**

Palpebral hidrocystomas are benign cystic lesions originating from eccrine or apocrine sweat glands and commonly present as translucent eyelid nodules. Although several treatment modalities have been described, including surgical excision and laser therapy. We report the case of a woman presenting with multiple bilateral palpebral hidrocystomas involving both upper and lower eyelids. Clinical examination revealed several painless translucent cystic lesions. Management consisted of needle aspiration followed by cauterization for the smaller lesions, while the largest lesion was surgically excised for histopathological confirmation. Histopathological analysis confirmed an apocrine hidrocystoma. The postoperative course was favorable, with complete resolution of the lesions, satisfactory cosmetic outcome, minimal residual scarring, and no recurrence after one year of follow-up. This case highlights cauterization as a simple, effective, minimally invasive, and cost- effective therapeutic option for palpebral hidrocystomas, particularly in cases with multiple lesions and in resource-limited settings.

Keywords: Palpebral hidrocystoma; Eylid cyst; Eyelid adnexal tumors; Cauterization; Minimally invasive treatment ; Cosmetic outcome; Case report.

INTRODUCTION

Palpebral hidrocystomas are benign cystic lesions originating from sweat glands, either eccrine or apocrine, and typically present as translucent, dome-shaped lesions on the eyelids. Although asymptomatic in most cases, they may cause cosmetic concern or, less frequently, functional discomfort depending on their size and location [1-3].

The diagnosis is primarily clinical but may be confirmed by histopathological examination, particularly in atypical presentations [3]. Several therapeutic options have been described, including surgical excision, laser therapy, and simple aspiration, each with variable efficacy, recurrence rates, and accessibility [4-12].

Cauterization has emerged as a minimally invasive and cost-effective alternative, especially in settings with limited resources. However, data regarding its effectiveness and long-term outcomes remain limited [11, 12].

In this report, we present a case of bilateral palpebral hidrocystomas successfully managed with cauterization, highlighting its efficacy, safety, and practical advantages in routine clinical practice.

CASE REPORT

A 53-year-old woman with no significant past medical history—specifically no history of diabetes, hypertension, thyroid disease, or prior surgery—presented with multiple bilateral, painless cystic lesions involving both the upper and lower eyelids. The lesions had progressively developed over a one-year period, in the absence of fever or systemic symptoms, with preserved general condition.

On ophthalmologic examination, uncorrected visual acuity was 20/20 in both eyes. Intraocular pressure was within normal limits (15 mmHg in the right eye and 16 mmHg in the left eye). Adnexal examination revealed multiple translucent cystic lesions affecting both upper and lower eyelids bilaterally, without associated inflammatory signs. The largest lesion measured approximately 15 mm, while the remaining lesions were of variable sizes.

Anterior segment examination was unremarkable, with a clear cornea, deep and quiet

anterior chamber, normal iris, and mildly opalescent lens. Fundus examination showed normal optic discs with a cup-to-disc ratio of 0.3 bilaterally, presence of spontaneous venous pulsation, normal macular reflex, and no evidence of peripheral retinal abnormalities.

A clinical diagnosis of palpebral hidrocystoma was made.

Management consisted of needle aspiration followed by cauterization of all lesions except the largest one, which was treated by surgical excision with narrow margins. The excised specimen was submitted for histopathological analysis.

Histopathological examination confirmed the diagnosis of hidrocystoma, demonstrating a unilocular cystic lesion lined by a bilayered epithelium composed of an inner layer of secretory columnar cells and an outer layer of myoepithelial cells. Features of apocrine differentiation were observed, including apical decapitation secretion. The cytoplasm appeared eosinophilic, occasionally vacuolated, and the cystic lumen contained eosinophilic material. Focal intraluminal papillary projections were noted, with no evidence of cytonuclear atypia.

The postoperative course was uneventful, with complete resolution of the lesions. A small residual scar was noted at the excision site. No recurrence was observed after one year of follow-up.

Figure 1: Preoperative photograph of the left eye showing a domeshaped, translucent cystic lesion of the eyelid, consistent with a palpebral hidrocystoma

Figure 2: Macroscopic appearance of a palpebral hidrocystoma in right eye

Figure 3: Macroscopic appearance of a palpebral hidrocystoma left eye

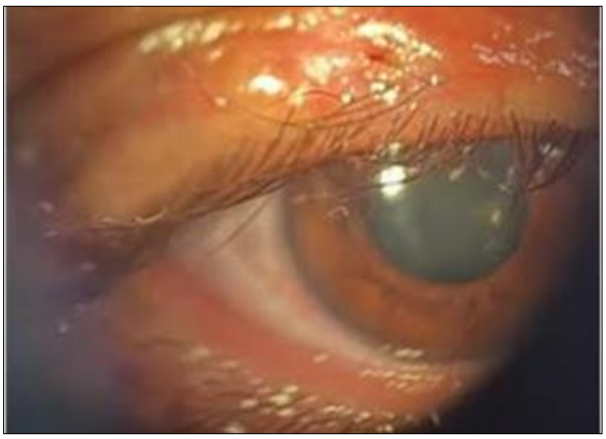

Figure 4: Clinical photograph obtained one week after treatment

Figure 5: Postoperative appearance of the eyelids at 1-month follow-up, demonstrating satisfactory healing with minimal residual scarring

DISCUSSION

The management of palpebral hidrocystomas remains a subject of ongoing discussion, with no universally accepted therapeutic standard. Multiple treatment modalities have been described, each with varying efficacy, recurrence rates, cosmetic outcomes, and accessibility. A comparative analysis of these approaches, as highlighted in recent study, underscores the need for individualized management strategies based on lesion characteristics and available resources [13].

Surgical excision has traditionally been regarded as the definitive treatment, particularly for solitary or large lesions, as it ensures complete removal and allows histopathological confirmation. However, comparative data indicate that while excision is associated with low recurrence rates, it carries a higher risk of scarring and eyelid distortion, especially in cases involving multiple lesions or cosmetically sensitive areas. These limitations reduce its suitability as a first-line option in multifocal presentations [2-4].

Laser-based therapies, including argon and CO_2 lasers, have demonstrated favorable outcomes in terms of precision and cosmetic results. The comparative study cited above reports high patient satisfaction and low recurrence rates with laser treatment, positioning it as an effective alternative to surgery. Nevertheless, these techniques remain limited by their cost, the requirement for specialized equipment, and the need for operator expertise, there by restricting their widespread use in routine practice [5-12].

Minimally invasive approaches such as simple needle aspiration have also been described. While they offer the advantages of simplicity and immediate decompression of the cyst, the literature consistently reports high recurrence rates due to incomplete destruction of the cyst wall. The comparative analysis confirms that aspiration alone is generally insufficient as a definitive treatment modality [4].

More recently, adjunctive and alternative treatments, including botulinum toxin injections for eccrine hidrocystomas, have been explored with promising results. These approaches aim to reduce sweat gland activity and thereby address the underlying pathophysiology. However, their role remains limited due to cost considerations, the need for repeated treatments, and a lack of long-term outcome data [6].

Within this therapeutic landscape, cauterization emerges as a pragmatic and effective option. According to the comparative findings reported in the aforementioned study, techniques that ensure destruction of the cyst wall—whether by laser or thermal methods—are associated with lower recurrence rates compared to simple drainage. Cauterization shares this fundamental mechanism while offering the additional advantages of low cost, ease of implementation, and accessibility in resource-limited settings [13].

The present case supports these observations. The combined approach of needle aspiration followed by cauterization resulted in complete resolution of multiple lesions, with no recurrence observed after one year of follow-up and with satisfactory cosmetic outcomes. This suggests that cauterization effectively compensates for the limitations of aspiration by achieving definitive destruction of the cyst wall.

Furthermore, the decision to perform surgical excision for the largest lesion while treating smaller lesions with cauterization illustrates the value of a tailored, lesion-specific strategy. Such an approach aligns with current evidence emphasizing the importance of balancing efficacy, safety, and cosmetic considerations in the management of periocular lesions.

In comparison with the outcomes reported in the literature, our findings reinforce the role of cauterization as a viable alternative to more resource-intensive techniques, particularly in cases of multiple lesions. While laser therapy may offer superior precision, cauterization provides comparable effectiveness in appropriately selected cases, with the added benefit of broader accessibility [13].

CONCLUSION

Cauterization of palpebral hidrocystomas is an effective, simple, and accessible method, providing good cosmetic outcomes with a low rate of complications. It represents a valuable therapeutic option, particularly in routine clinical practice [11, 12].

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