Case Report

An Unusual Case of Sebaceous Gland Carcinoma Mimicking Recurrent Chalazion in a Young Patient

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ABSTRACT

Introduction: Chalazion is a common eyelid lesion usually treated conservatively or with minor surgical interventions, such as incision and curettage or intralesional steroid injections. However, recurrent or atypical chalazion in a young adult patient warrants further investigation to exclude malignant conditions such as sebaceous gland carcinoma (SGC).

Case: Here an unusual case of SGC presenting with a recurrent chalazion in a young adult patient is reported, which was diagnosed by a biopsy for histopathological examination.

Observation: Histopathology revealed sebaceous gland carcinoma. The patient subsequently underwent wide local excision of the lesion, followed by oculoplastic reconstruction. Post-operative follow-up over one year revealed no recurrence or metastasis.

Conclusion: This case highlights the importance of considering malignancies like sebaceous gland carcinoma in recurrent or atypical chalazion cases, even in young patients. Early biopsy and histopathological evaluation are essential for timely diagnosis and management to prevent metastasis and ensure better patient outcomes.

Key words: Chalazion; lid reconstruction; recurrence; sebaceous gland carcinoma; young.

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INTRODUCTION

Chalazion is a common inflammatory lesion of the eyelids caused by non-infectious obstruction of the meibomian gland duct, presenting as painless, localised swellings. While they are usually easy to diagnose and treat, their presentation can mimic other eyelid lesions, including malignant ones (Zürcher et al., 1998). Recurrent or atypical chalazion, particularly in young and middle-aged patients, necessitates biopsy to rule out conditions like sebaceous gland carcinoma (SGC), a highly malignant tumour that can appear similar to benign lesions. However, SGC predominantly affects individuals over 50 years and is more common in females. It can mimic chalazion, chronic blepharitis, and other eyelid conditions, typically presenting as a firm, painless, indurated eyelid thickening with a yellowish hue (Cicinelli et al., 2019). Histopathological examination and immunohistochemistry are crucial for diagnosis (Jakobiec et al., 2014). Hereby an unusual case of SGC is reported in a young patient initially misdiagnosed and treated as chalazion, giving importance to the high index of suspicion and the need for prompt biopsy to ensure early diagnosis and appropriate treatment, thereby reducing the risk of metastasis and improving patient outcomes.

CASE REPORT

A 28-year-old young female presented to the Ophthalmology outpatient department with a recurrence of a lower eyelid lesion on her right eye (RE). She had previously experienced a well-defined, non-tender swelling in the same location six months earlier, which had been diagnosed as a chalazion and treated with incision and curettage twice. She had no history of trauma, systemic disease, weight loss, or malignancy.

On examination, a well-defined eyelid lesion measuring 4 mm x 6 mm, firm in consistency, accompanied by scanty mucoid discharge, and thickened lid margin was seen involving the lateral one-third of the right lower lid (Figure 1).

There were no signs of blepharitis or meibomian gland disease, and no local lymphadenopathy was detected. Her best-corrected visual acuity was 20/20 and N6 in both eyes. Examination of the anterior and posterior segments, as well as the lacrimal apparatus, revealed no abnormalities in either eye. The intraocular pressure in both eyes was recorded as 18 mmHg, and the general physical examination revealed no notable abnormalities.

Due to the atypical appearance and persistent recurrence of the lesion, an incisional biopsy was done and sent for histopathological examination. Microscopic analysis revealed an epidermis with focal ulceration. The sub-epithelium and dermis showed a tumour arranged in sheets and lobules separated by fibrovascular septa. These tumour cells show moderate to severe pleomorphism with a high nucleus-to-cytoplasmic ratio, prominent nucleoli, a moderate foamy to vacuolated cytoplasm, and scattered mitotic figures. The lesion was diagnosed as sebaceous gland carcinoma (Figure 2).

The patient was referred to medical oncology for a metastatic workup, but no signs were found. The patient underwent wide local excision of the tumour, with 4 mm margins, to ensure complete tumour removal, resulting in a significant full-thickness defect in the lower eyelid. A Mustarde flap was used for the reconstruction of the lower lid, which involved creating a rotational flap of skin from the cheek to cover the defect while preserving the facial nerve branches. The procedure was completed with the primary closure of the conjunctival

layers and the suturing of a periosteal flap (Figure 3).

During the post-operative period, at the two-week follow-up, sutures were removed, and the patient had a good aesthetic outcome. There were no complications such as ectropion, entropion, or lid retraction. There was no recurrence of the lesion on follow-up examination at one year (Figure 4).

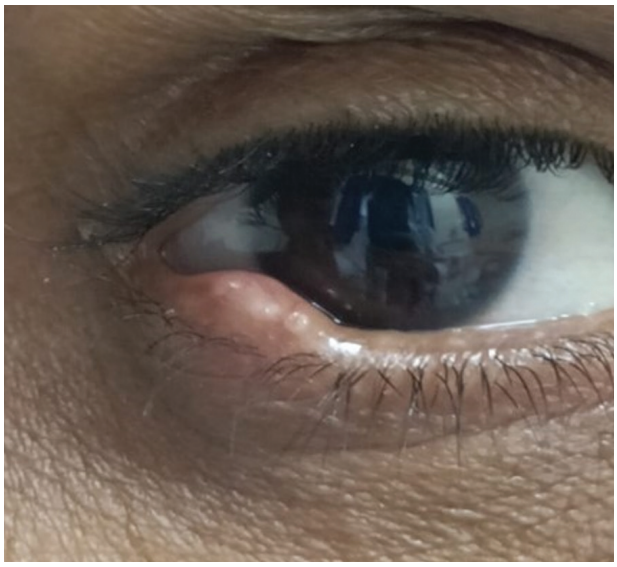

Figure 1: Clinical photograph showing a well-defined nodular lesion of size 4 mm x 6 mm on the right lower eyelid.

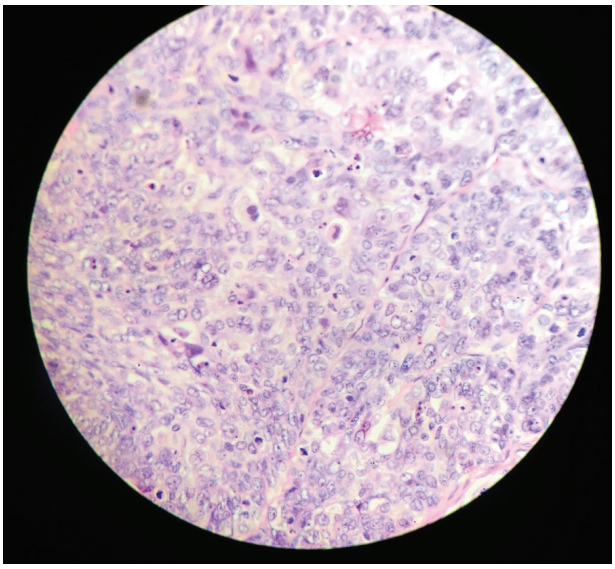

Figure 2: The histopathological section of the lesion shows moderate to severe pleomorphism with a high nucleus-to-cytoplasm ratio, prominent nucleoli, and a moderate amount of foamy to vacuolated cytoplasm.

Figure 3: Post-operative photograph after one week of reconstruction of the lower eyelid.

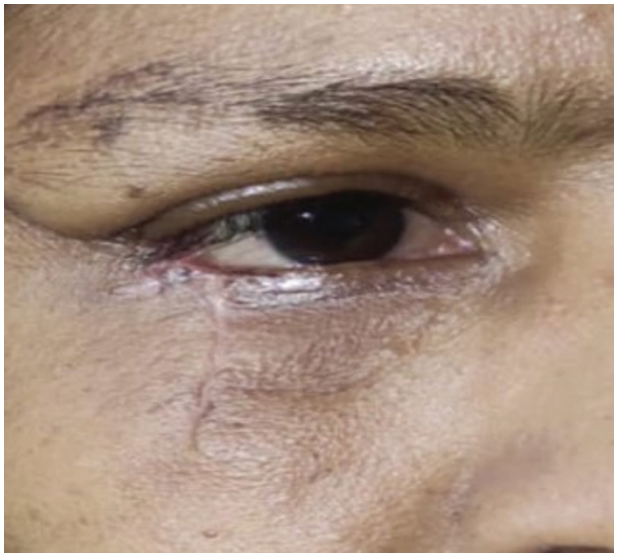

Figure 4: Post-operative photograph at one-year follow-up.

DISCUSSION

Recurrent eyelid lesions initially diagnosed as chalazion are often harbingers of more serious conditions, including sebaceous gland carcinoma. Studies reveal that about 6% of cases initially diagnosed as chalazion are misclassified, with up to 3% proving to be malignant, and SGC comprises a notable portion of these misdiagnoses (Ozdal et al., 2004). The SGC is commonly misdiagnosed due to its clinical resemblance to benign lesions. Shields et al. (2005) found that up to 30% of SGC cases were incorrectly classified as benign conditions, such as chronic conjunctivitis or posterior blepharitis, leading to delays in appropriate treatment and a higher risk of metastasis. Husain et al. (2008) reported a metastasis rate of 8% in advanced SGC cases, with common sites including lymph nodes, lungs, liver, brain, and bones.

Sebaceous gland carcinoma is the most frequently associated malignancy in cases of recurrent chalazion. It is a highly malignant and potentially lethal tumour, typically occurring after the age of 50 years and more frequently in females (Cicinelli et al., 2019). Shields et al. (2005) reported a case of SGC confirmed by biopsy, initially misdiagnosed as recurrent chalazion in elderly female. This case highlights the importance of considering biopsy for any persistent eyelid lesion, especially after multiple recurrences, even in young patients. Dasgupta et al. (2009) reviewed 50 cases of recurrent chalazion, discovering SGC in 12 cases (24%), emphasizing the necessity of histopathological analysis for accurate diagnosis.

In this case, the recurrence of a firm, atypical lesion on the lower eyelid, despite prior incision and curettage, raised suspicion. Histopathology confirmed SGC, showing a lobular pattern with pleomorphic cells and a high nucleus-to-cytoplasm ratio, consistent with findings in typical SGC cases.

The SGC incidence varies geographically. In developed countries, it constitutes only 1%-5% of eyelid malignancies, whereas studies from India report a much higher incidence, ranging from 37%-60% of eyelid malignancies. This discrepancy highlights the importance of heightened clinical vigilance in regions with a higher prevalence (Abdi et al., 1996).

The aetiology of SGC remains uncertain, though several risk factors have been proposed, including prolonged ultraviolet (UV) exposure, Human Papillomavirus (HPV) infection, P53 gene mutations, and c-erB-2 oncogene overexpression (Jakobiec et al., 2014). Given SGC's propensity to mimic benign conditions, immunohistochemical staining (such as EMA, Ber-EP4, androgen receptor, and adipophilin) is instrumental in differentiating it from other lesions. Stains like p16 and p53 further aid in identifying intraepithelial SGC spread and determining the potential for regional metastasis (Bell et al., 2015).

Treatment of SGC typically involves wide local excision with margin control to prevent recurrence (Shields et al., 2005). Sentinel lymph node biopsy and regional nodal surveillance are advised for tumours exceeding 10 mm (Husain et al., 2008). In this patient, an early biopsy followed by complete excision without evidence of deep invasion or metastasis resulted in a favourable outcome. Mortality rates for

SGC range from 5%-10%. However, Muqit et al. (2004) showed improved survival rates due to earlier diagnosis, timely intervention, and rigorous follow-up.

CONCLUSION

Recurrent or atypical chalazion, even in young patients resistant to standard treatment, should be suspected to have carcinomatous changes. Sebaceous gland carcinoma is a great masquerade; therefore, a high index of suspicion is essential in diagnosing this aggressive eyelid tumour. Early diagnosis by histopathological examination and appropriate treatment is crucial to prevent recurrence and metastasis.

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