

Case report

Superficial basal cell carcinoma masquerading as pruritic dermatitis on the upper eyelidAngie Priscila Mariños,^{1,2✉} Jenny Valverde-López,^{1,2} Pedro Cárdenas Cruz^{1,2}¹ Regional Hospital of Trujillo, Trujillo, Peru² National University of Trujillo, Trujillo, Peru**Abstract**

Although basal cell carcinoma is the most common form of skin cancer, the superficial subtype is rarely seen on the upper eyelid. We report the case of a 71-year-old woman with a 4-year history of upper eyelid pruritus, initially diagnosed as blepharitis and unsuccessfully treated with various medications, including topical and systemic corticosteroids, topical immunomodulators, and antihistamines. The unusual presentation, location, histologic subtype, and persistent pruritus posed a significant diagnostic challenge in this case.

Keywords: carcinoma, eyelid, basal cell, case report**Received:** 11 September 2024 | **Returned for modification:** 16 October 2024 | **Accepted:** 31 October 2024**Introduction**

Basal cell carcinoma (BCC) is the most prevalent malignant tumor of the eyelid (1). Histopathological evaluation is critical in guiding optimal treatment strategies. Eyelid BCC typically manifests on the lower lid, possibly due to protective structures such as the eyebrow, with the nodular subtype being the most common histological variant (1, 2). This report presents a case of superficial basal cell carcinoma (sBCC) occurring on the upper eyelid, distinguished by its atypical location, clinical presentation, and histological subtype.

Case report

A 71-year-old woman with a history of cataract and pterygium surgeries presented with a 4-year history of persistent pruritus on the left upper eyelid (Fig. 1). She had consulted multiple specialists, including dermatologists and ophthalmologists, and received various diagnoses such as contact dermatitis and blepharitis. Treatment attempts included topical and oral corticosteroids, moisturizing creams, tacrolimus 0.1%, and petrolatum, but none provided relief. Over time, her pruritus progressively worsened, prompting her visit to our department.

On physical examination, erythematous and scaly plaques were observed on the left upper eyelid (Fig. 2). The patient's medical history included hypertension, diabetes mellitus with associated diabetic neuropathy, obesity, and osteoarthritis. Her family history was unremarkable, and she had no personal history of cancer.

Histopathological examination of the biopsy revealed aggregates of basal cells adhering to the epidermis and extending into the superficial reticular dermis (Fig. 3). The patient was subsequently referred to the Ophthalmology Department for surgical management. The lesion was excised with preservation of the orbicularis muscle, and the excision site was reconstructed using internal sutures. A skin graft, harvested from the contralateral upper eyelid, was applied to repair the defect (Fig. 4).

Discussion✉ amarinos@unitru.edu.pe

Running title: Upper eyelid superficial basal cell carcinoma

The incidence of eyelid malignancies is influenced by various factors, including race, sun exposure, socioeconomic status, the growing elderly population, migration patterns, and, to a lesser extent, the use of systemic immunosuppressive medications (2). In recent decades, the incidence of eyelid malignancies has risen, particularly in regions such as Australia, Europe, and North America, whereas data from Latin America remain limited (3).

BCC is the most common malignant neoplasm of the eyelid and can present with subtle features, often mimicking benign tumors (1). The nodular subtype of BCC is the most frequently encountered histological form, and the lower eyelid is the most commonly affected site (1). The relatively infrequent occurrence of BCC on the upper eyelid may be due to the protective effect of the eyebrow. However, the presence of inflammation, with or without ulceration, can increase the risk of the tumor developing a more aggressive phenotype (1, 4).

Sebaceous carcinoma is the only other malignant tumor of the eyelid that has been reported to mimic unilateral chronic blepharitis, often presenting with a positive bacterial culture that does not respond to antibiotics (5). However, in the case presented here, sBCC mimicked blepharitis, showing no response to treatment with topical corticosteroids, antihistamines, and immunomodulators. Histopathological examination revealed a low-risk subtype of sBCC, with multifocal tumor extension typically without involvement of the reticular dermis (6).

The primary treatment for BCC of the eyelid is surgical excision, aimed at completely removing the tumor while preserving eyelid function and aesthetics. However, treatment must be individualized based on the patient's clinical situation, tumor characteristics, and histological subtype (7). Early biopsy is crucial to identify patients at high risk of developing more aggressive histological subtypes, which may not be amenable to nonsurgical treatments (8). In this case, complete excision was performed with appropriate safety margins around the lesion.

For patients that refuse surgery or have contraindications due to systemic conditions, 5% imiquimod may be considered as an alternative treatment for sBCC, although it has lower efficacy compared to surgery and may cause adverse effects such as erythema, pruritus, and edema (9–11). Radiotherapy is another option for BCC patients that are not suitable surgical candidates. It can also be used adjunctively in cases with residual tumors following surgery. Special attention is necessary when treating the facial region in order to minimize aesthetic impact and preserve the patient's appearance (1).

Conclusions

The challenge presented by this case highlights the importance of considering sBCC in the differential diagnosis when evaluating a unilateral erythematous lesion on the upper eyelid, especially when there is no response to standard treatment.

References

1. Goto H, Yamakawa N, Komatsu H, Asakage M, Tsubota K, Ueda SI, et al. Epidemiological characteristics of malignant eyelid tumors at a referral hospital in Japan. *Jpn J Ophthalmol*. 2022;66:343–9.
2. Shi Y, Jia R, Fan X. Ocular basal cell carcinoma: a brief literature review of clinical diagnosis and treatment. *Onco Targets Ther*. 2017;10:2483–9.
3. Amaya Nieto LM, Sierra Patiño LF, Pérez Estepa HH. Actualización en carcinoma basocelular periocular: abordaje semiológico y diagnóstico diferencial. *Cienc Tecnol Salud Vis Ocul*. 2019;17:45–56. Spanish.
4. Wu A, Sun MT, Huilgol SC, Madge S, Selva D. Histological subtypes of periocular basal cell carcinoma. *Clin Exp Ophthalmol*. 2014;42:603–7.
5. Wali UK, Al-Mujaini A. Sebaceous gland carcinoma of the eyelid. *Oman J Ophthalmol*. 2010;3:117–21.
6. Allali J, D'Hermies F, Renard G. Basal cell carcinomas of the eyelids. *Ophthalmologica*. 2005;219:57–71.
7. Monheit G, Hrynewycz K. Mohs surgery for periocular tumors. *Dermatol Surg*. 2019;45:S70–8.
8. Sun MT, Wu A, Huilgol SC, Selva D. Accuracy of biopsy in subtyping periocular basal cell carcinoma. *Ophthalmic Plast Reconstr Surg*. 2015;31:449–51.

9. Gniesmer S, Sonntag SR, Schiemenz C, Ranjbar M, Heindl LM, Varde MA, et al. Diagnose und Therapie der malignen Lidtumoren [Diagnosis and treatment of malignant eyelid tumors]. *Ophthalmologie*. 2023;120:262–70. German.
10. Macedo E, Camargo R, Lima P, Goncalves B, Matayoshi S. [Imiquimod cream efficacy in the treatment of periocular nodular basal cell carcinoma: a non-randomized trial](#). *BMC Ophthalmol*. 2015;35:1–7.
11. Costales C, Álvarez M, Rozas P, González C, Fernández L. Topical imiquimod 5% as an alternative therapy in periocular basal cell carcinoma in two patients with surgical contraindication. *Arch Soc Esp Oftalmol*. 2017;92:93–6.
12. Guo Y, Rokoni A, Kopercky A, Heindl L. Periocular basal cell carcinoma—current treatment concepts. *Ann Eye Sci*. 2021;6:1–16.

ACCEPTED MANUSCRIPT



Figure 1. Basal cell carcinoma of the upper eyelid: initial presentation with pruritus and erythema.



Figure 2. Basal cell carcinoma of the upper eyelid: erythematous and scaly plaques observed on the left upper eyelid.

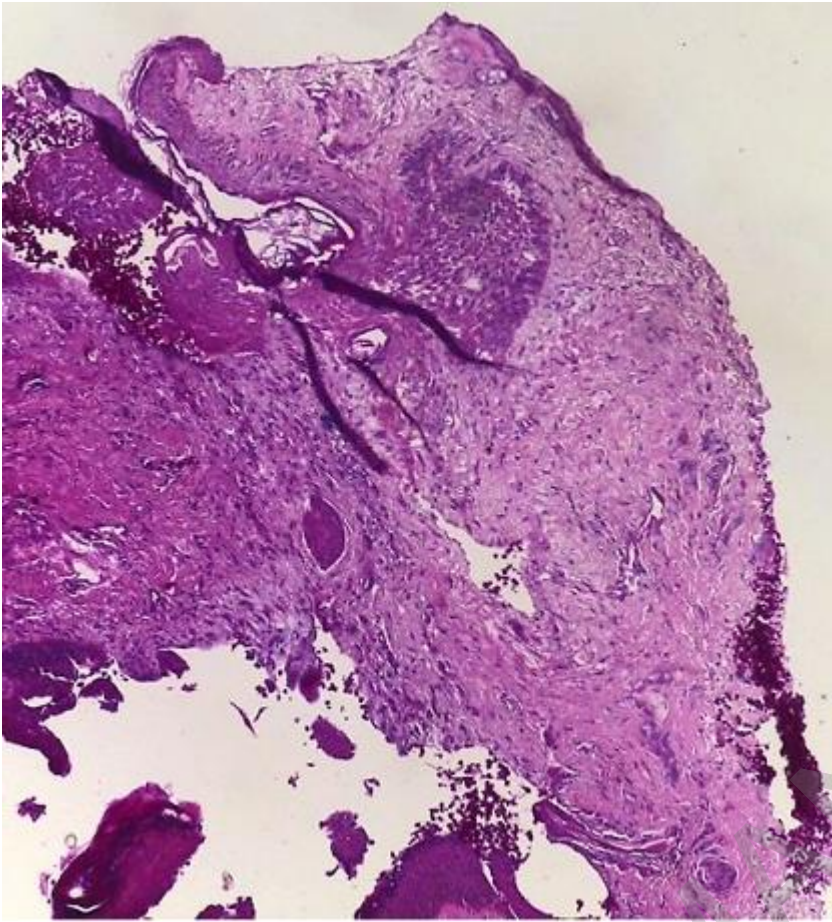


Figure 3. Histopathology of basal cell carcinoma of the upper eyelid: hematoxylin & eosin stain showing aggregates of basal cells attached to the epidermis, extending into the superficial reticular dermis.



Figure 4. Basal cell carcinoma of the upper eyelid: postoperative control showing the results after excision and reconstruction.