

Verrucous Carcinoma of the Brow Tail - A Case Report and Surgical Outcomes

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Abstract

Case Report

Verrucous carcinoma is a rare, well-differentiated variant of squamous cell carcinoma characterized by slow growth, local aggressiveness, and a low propensity for metastasis. Its occurrence in the brow tail region is very uncommon, posing diagnostic and therapeutic challenges due to the anatomical and cosmetic significance of the area. We present a case of verrucous carcinoma arising in the lateral eyebrow (brow tail) of an 81 years old patient, highlighting clinical presentation, histopathological features, surgical management, and postoperative outcomes. The patient presented with a progressively enlarging, exophytic lesion over several months, initially misdiagnosed as a benign wart-like growth. Dermoscopic and clinical findings raised suspicion, and a biopsy confirmed verrucous carcinoma. Imaging studies revealed no evidence of regional or distant spread. The lesion was treated with wide local excision, ensuring adequate margins while preserving adjacent functional and aesthetic structures. Reconstruction was performed using a thick skin graft tailored to the brow contour. Histopathological examination of the excised specimen confirmed clear margins. The postoperative course was uneventful, with satisfactory wound healing and preservation of brow symmetry. At follow-up, no recurrence or functional impairment was observed. This case underscores the importance of early recognition and biopsy of atypical verrucous lesions in cosmetically sensitive regions. Complete surgical excision remains the gold standard for treatment, with careful planning required to optimize both oncologic control and aesthetic outcomes. Increased awareness among clinicians can help prevent delays in diagnosis and reduce the risk of local tissue destruction associated with this uncommon malignancy.

Keywords: Verrucous, Carcinoma, Rare tumor, Face, Brow tail.

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INTRODUCTION

Verrucous carcinoma is a rare variant of squamous cell carcinoma characterized by primarily local aggression. While its occurrence on the face is uncommon, its localization to the eyebrow is exceptional. We hereby report a case of verrucous carcinoma involving the tail of the eyebrow in an 81-year-old female patient.

OBSERVATION

The patient was an 81-year-old female who presented to our facility with a one-year history of a nodular lesion on the tail of the right eyebrow. Initially sub-centimetric, the lesion was relatively painless and fixed to both superficial and deep planes. Following repeated microtrauma, the mass grew progressively,

exceeding 2.5 cm in diameter and evolving into an ulcerated, exophytic (budding) lesion that bled upon contact. These symptoms eventually prompted the patient to seek medical consultation (**Figure 1**).

Physical examination revealed no palpable cervical lymphadenopathy, and the remainder of the somatic examination was unremarkable.

An initial incisional biopsy confirmed a well-differentiated squamous cell carcinoma. A cervicofacial CT scan was subsequently performed, revealing a tissue mass measuring approximately 26 mm by 13 mm. The lesion was in contact with the underlying bone but showed no signs of osseous invasion; no suspicious cervical lymph nodes were identified. The patient was then admitted for surgical excision under general anesthesia (**Figure 2**).



Figure 1 – Clinical aspect of the tumor showing how it extends over the periorbital frame, with a deposit of scabs over the center of the tumor



Figure 2 - Tumor surgically removed, measuring roughly 5 cm in diameter (after surgical margins)

The histopathological and immunohistochemical analysis of the complete surgical specimen provided the definitive diagnosis of verrucous carcinoma, revealing a classic exo-endophytic silhouette

characterized by voluminous, blunted rete ridges-often described as "elephant feet"-that displaced the underlying stroma.

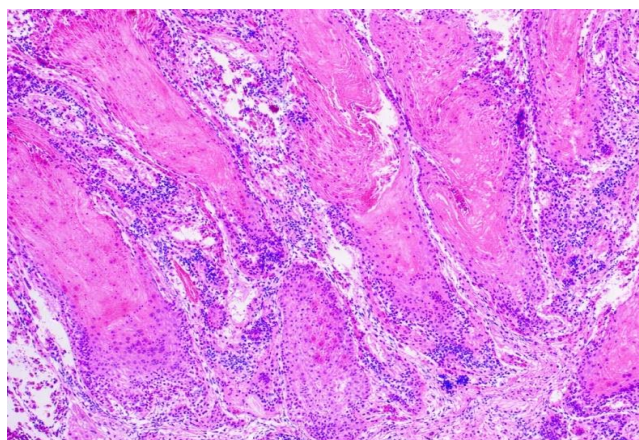


Figure 3 - The histological analysis indicates an exo-endophytic growth pattern with pushing margins, in addition to basal cell mild atypia, well-differentiated tumor cells with keratinization, dermal fibrosis, reactive hyperplasia of adjacent epidermis, and eosinophilic infiltration with minimal basal cell atypia and extensive keratinization.

Given that the surgical margins were clear, the patient underwent a secondary procedure for reconstruction. The resulting tissue defect was covered

with a full-thickness skin graft, achieving a highly satisfactory aesthetic outcome (**Figure 4**).



Figure 4 - complete healing after 3 months with satisfactory aesthetic result of the brow tail

DISCUSSION

Verrucous carcinoma (VC) is defined as a well-differentiated, low-grade variant of malignancy [1]. Its clinical and histopathological characteristics were initially codified by Ackerman in 1948, thus establishing the reference diagnostic criteria [2]. Classically, it is a tumor that develops from mucous membranes rather than skin [3], and its location at the tail of the eyebrow is exceptional.

Clinically, VC manifests as a wide-based, exophytic lesion with a "cauliflower-like" appearance and distinct boundaries [4]. Although characterized by a slow growth rate, the tumor is significantly locally aggressive, with a tendency to invade underlying structures, despite its low metastatic potential [4] in addition to the reactive hyperplasia of the regional lymph nodes that may also be observed [4].

A high index of suspicion is required, as the lesion is often misdiagnosed until a confirmatory skin biopsy is performed. Key histological hallmarks of VC include a combined exo-endophytic growth habit and the presence of voluminous, blunted rete processes that displace rather than infiltrate the stroma (pushing margins) [5-6]. Additional histopathological features frequently observed in VC include an asymmetrical silhouette, mild basal cell atypia, and well-differentiated neoplastic cells exhibiting prominent keratinization. These findings are often accompanied by dermal fibrosis, reactive epidermal hyperplasia at the margins, and a distinct eosinophilic infiltrate [7].

The gold standard treatment for verrucous carcinomas remains wide local excision [8]. The role of radiotherapy remains controversial; several studies suggest a risk of post-radiation anaplastic transformation, alongside high failure rates, significant complications, and reduced overall survival [4,9]. Regardless of the therapeutic modality, local recurrence rates remain high, ranging from 30% to 50%, often due to sub-optimal resection margins or the challenging size of the primary tumor [10].

CONCLUSION

The brow tail is an exceptionally rare location for verrucous carcinomas. This case of an 81-year-old patient demonstrates that despite slow growth, the tumor is locally invasive and requires aggressive wide surgical excision. A successful six-month recurrence-free outcome confirms that thorough resection and meticulous reconstruction provide excellent functional and aesthetic results.

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