BULLETIN OF STOMATOLOGY AND MAXILLOFACIAL SURGERY
Volume 21, Issue 12

DOI: 10.58240/1829006X-2025.21.12-200

CASE REPORT

COLLISION TUMOR OF BASAL CELL CARCINOMA AND SQUAMOUS CELL CARCINOMA OF THE NASAL SKIN; A CASE REPORT

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Received: Nov 29. 2025; **Accepted:** Dec 27, 2025; **Published:** Jan. 4, 2026

Abstract

Collision tumors of two or more histologically separated neoplasms coexisting at the same anatomical site are rare pathological entities. We report a case of a 74-year-old female living in a rural resource-limited area who presented with a slowly growing, asymptomatic ulcerated lesion on the nasal skin. Excisional biopsy was performed with a 5 mm free margin, revealing a collision tumor comprising of basal cell carcinoma (BCC) and well-differentiated squamous cell carcinoma (SCC). The lesion showed clear separation with no evidence of transitional zones between the two components, differentiating it from basosquamous carcinoma. The patient underwent surgical excision, with no evidence of recurrence or metastasis observed during a six-month follow-up. Collision tumors, including both BCC and SCC, are exceptionally rare, and this represents, according to our knowledge, the first documented case in Iraq. Management should be tailored to the most aggressive histologic component, in this case, SCC. This case emphasized the importance of accurate histopathological diagnosis and highlights the need for increased clinical awareness in underserved regions.

Keywords: *collision tumors, basal cell carcinoma, squamous cell carcinoma*

INTRODUCTION

Concurrent appearance of distinct tumor types localized to the same region can be grouped into four major forms: collision, colonization, combination, and biphenotypic tumors[1]. Various hypotheses have been proposed to interpret this phenomenon, including random coexistence, tumor-induced microenvironmental changes, field cancerization, and stem cell transformation resulting in dual differentiatio[2-4]. In the context of collision tumors, two or more independent neoplasms develop in close anatomical proximity but retain clear histological boundaries, without intermixing of cellular components[5]. Documented cases of collision tumors containing basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are limited in the scientific literature [6,7].

CASE REPORT DESCRIPTION

An elderly female patient aged 74 residing in an economically disadvantaged rural area presented with a slowly enlarging, painless nasal skin mass of eight months' duration. The patient reported no relevant family history. Clinically, the lesion was well demarcated and red in color with a centrally ulcerated area (Figure 1).

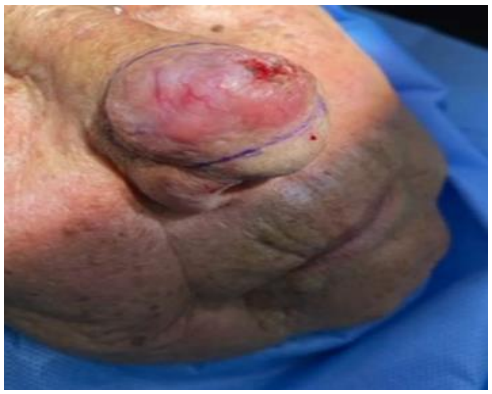

Figure 1. The patient presented with a large ulcerated

mass on the nasal skin

The patient was diabetic and hypertensive. On clinical examination, there were no other skin lesions and no palpable lymphadenopathy. An excisional biopsy was performed with a 5 mm free surgical margin (Figure 2).

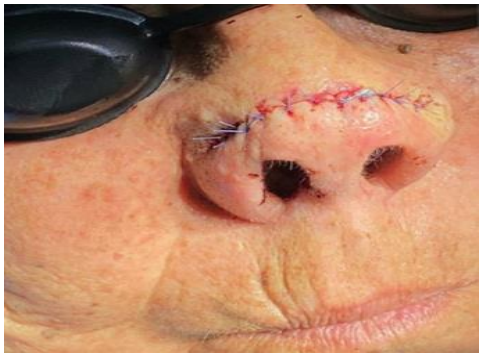

Figure 2. the lesion removed with 5 mm free surgical margin

Histopathological analysis revealed a well-differentiated squamous cell carcinoma (SCC) with keratin pearl formation, in conjunction with basal cell carcinoma (BCC) displaying basaloid epithelial cells arranged in peripheral palisading. The two neoplastic components were distinctly demarcated without histological intermixing or evidence of gradual differentiation (Figure 3).

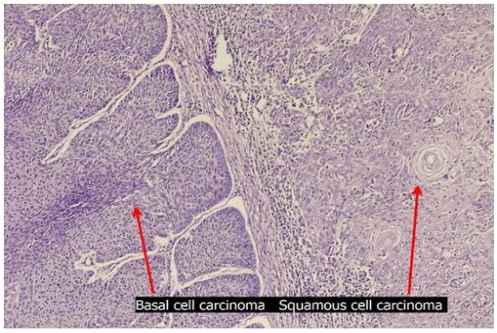

Figure 3. BCC and SCC are juxtaposed and well separated in the H&E-stained section

The patient has been under regular surveillance, with no signs of local recurrence or metastatic disease observed over a 6-month follow-up period (Figure 4).

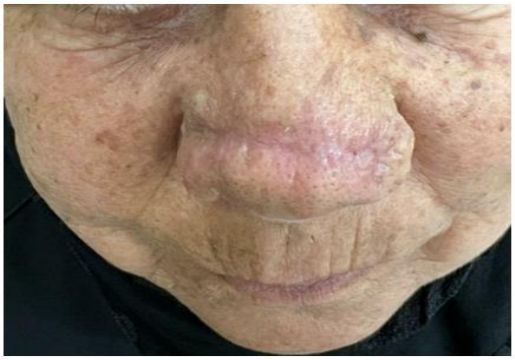

Figure 4. complete healing of lesion with no signs of recurrence following 6 months period

DISCUSSION

Collision tumors arising in the skin area are rare pathological phenomena, with the head and neck region considered the second most prevalent anatomical site, accounting for 24.7% of cases. Among these, tumors composed of two malignant components—specifically the co-occurrence of basal cell carcinoma (BCC) and squamous cell carcinoma (SCC)—remain exceptionally rare[8]. This report details a rare and clinically significant case of a collision tumor exhibiting both BCC and SCC components, which was successfully managed via wide local excision. Surgical excision remains the most widely accepted and efficacious modality for the management of both BCC and SCC, particularly when histopathologic clearance is a primary goal[9]. Despite the shared utility of surgical excision, BCC and SCC vary in terms of their biological behavior, risk of recurrence, and possibility for metastasis, thereby necessitating distinct approaches to surgical margin determination[10]. Current guidelines recommend a margin of at least 3 mm for the excision of small, well-defined primary BCCs, as this has been shown to achieve high rates of complete excision while minimizing unnecessary removal of surrounding healthy tissue. However, the British Association of Dermatologists recommends slightly wider peripheral margins of 4–5 mm to achieve complete tumor removal in about 95% of cases[11]. In contrast, the management of SCC necessitates a more extensive approach reflecting its higher tendency for local invasion and metastasis[12]. Surgical excision of SCC required a rim of clinically normal-appearing skin as well as underlying subcutaneous tissue to confirm clearance. The determination of the appropriate free surgical margins for SCC differs according to the lesion's risk stratification: low-risk SCCs should be removed with a minimum free margin of 4 mm, whereas high-risk SCCs determined by features like tumor dimension, perineural invasion, depth of invasion, poor differentiation, and immunosuppression necessitate at least 6 mm free margin to mitigate the possibility of residual disease and recurrence[13-17]. Due to the rarity of lesions exhibiting both BCC and SCC components, standardized management guidelines have yet to be established. Consequently, therapeutic strategies must be individualized, with clinical decision-making guided by the most histologically aggressive component of the lesion. It is important to recognize that basal cell carcinoma–squamous cell carcinoma (BCC-SCC) collision tumors possess metastatic potential, mostly reported to axillary lymph nodes and lungs [18]. To the best of our knowledge, this is the first collision tumor of BCC and SCC documented in Iraq. It is essential to differentiate BCC-SCC collision tumors from basosquamous carcinoma (BSC), which displays features suggestive of transitional tumor phenotypes.

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doi:10.58240/1829006X-2025.21.12-200

BSC demonstrates a histologic continuum between BCC and SCC, with areas of BCC or metatypical basal cell carcinoma gradually transitioning into regions showing squamous differentiation. Within BSC, the transition zones contain metatypical cells, which are cytologically distinct: they appear larger and paler than the basaloid cells found in classic BCC, yet smaller and less eosinophilic than the keratinizing squamous cells observed in SCC [19,20].

CONCLUSION

This case highlights a rare and significant example of basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) collision tumor arising in the nasal skin of an elderly patient from a resource-limited rural area. The distinct histopathological demarcation between the two neoplastic components confirms the diagnosis of a true collision tumor rather than a basosquamous carcinoma. Surgical removal with free margins proved curative, with no recurrence or metastasis observed during three years of follow-up. Given the rarity of such tumors and the absence of standardized treatment protocols, clinical management should be guided by the more aggressive histological component, in this case, SCC. This report also represents the first documented case of a BCC-SCC collision tumor in Iraq, emphasizing the need for increased awareness, accurate histopathological differentiation, and individualized treatment strategies in such uncommon presentations.

DECLARATIOM

Conflict of Interest

None to declare.

Funding

None to declare.

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