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Original Research Article

A Rare Case of Adenoid Basal Cell Carcinoma of the Skin – Clinical Presentation, Diagnosis, and Treatment

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Abstract:
Adenoid basal cell carcinoma [BCC] is a rare histological subtype of basal cell carcinoma, which is the most prevalent form of skin cancer. This variant is distinguished by unique histopathological features that can make it challenging to differentiate it from other similar lesions, such as adenoid cystic carcinoma. Typically presenting in sun-exposed areas of the body, adenoid BCC highlights the significant role of ultraviolet [UV] radiation in its development.

Keywords: Adenoid Basal Cell Carcinoma, Histopathology, Mucin Deposition.

Introduction

Basal cell carcinoma [BCC] is the most prevalent form of skin cancer, accounting for approximately 80% of all non-melanoma skin cancers [1]. It originates from the basal cells in the epidermis, the outermost layer of the skin. Despite its high incidence, BCC generally exhibits a slow growth pattern and has a low potential for metastasis [2].

However, the different histological subtypes of the condition can exhibit distinct clinical characteristics and have varying prognostic implications. Adenoid basal cell carcinoma is a rare histological variant of BCC, distinguished by its unique gland-like [adenoid] structures. This variant, while sharing many characteristics with other forms of BCC, presents specific diagnostic challenges due to its histopathological resemblance to other glandular tumors of the skin [3].

The distinct morphological features of adenoid BCC necessitate careful histological examination to ensure accurate diagnosis and appropriate treatment planning. The etiology of adenoid BCC, like other BCC variants, is primarily associated with prolonged ultraviolet [UV] radiation exposure. Other contributing factors include genetic predisposition, fair skin, and immunosuppression [4]. Clinically, adenoid BCC often presents as a small, asymptomatic nodule or plaque on sun-exposed areas of the skin, such as the face and neck. Its indolent nature can sometimes lead to delayed diagnosis and treatment [5].

Understanding the histopathological features of adenoid BCC is crucial for distinguishing it from other skin neoplasms that may mimic its appearance.

Case presentation

A 66 year old female presented with a morphea like pigmented growth at the dorsum of nose since 6 months. Patient complained that growth was initially small and gradually increased in size. Patient was not having significant medical history or family history.

On skin examination patient is having blackish morphea like growth over dorsum of nose. Patient was advised exclusion biopsy to confirm the diagnosis. On histopathological examination baseloid cells were arranged in reticulated and gland like growth pattern with cyst like spaces at places. Cells had peripheral palisading. The connection between the epidermis and dermal tumor was evident focally. These baseloid cells were uniform in size and polygonal in shape with round to oval hyperchromatic nuclei and inconspicuous nucleoli with scanty cytoplasm.

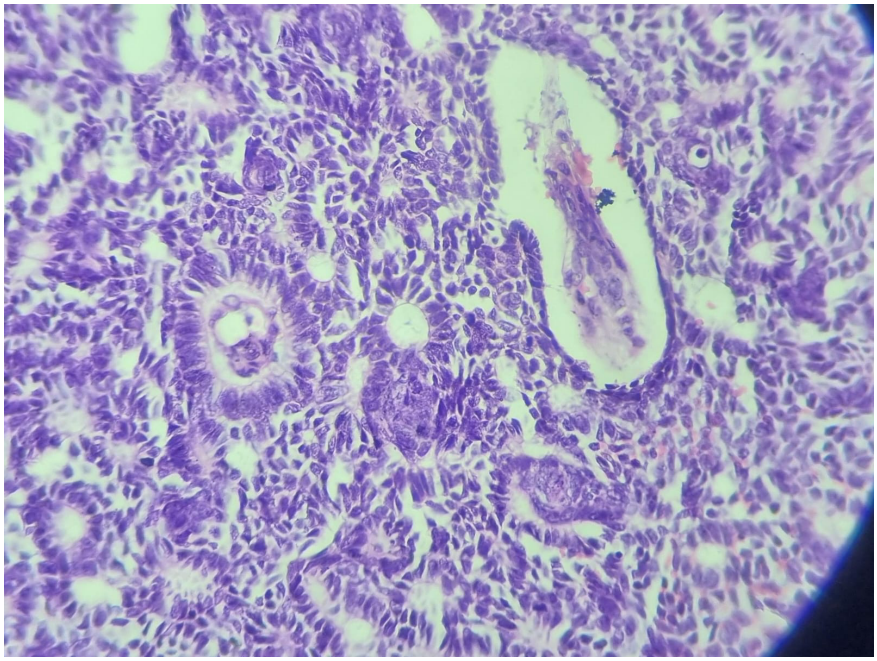

Figure 1: Multiple areas showing adenoid (gland-like) differentiation. The stroma appears fibrotic and desmoplastic

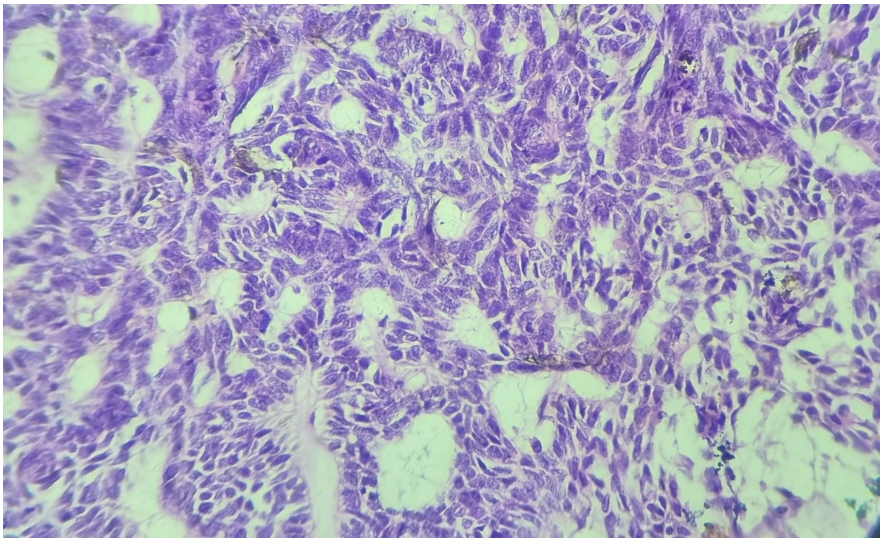

Figure 2: Tumor characterized by nests and cords of basaloid cells with peripheral palisading

There are areas showing adenoid (gland-like) structures within the tumor nests.

Discussion

Adenoid basal cell carcinoma [BCC] is a rare histological subtype of basal cell carcinoma, which itself is the most common form of skin cancer. This variant is characterized by its unique histopathological features, which can sometimes make it challenging to distinguish it from other similar lesions, such as adenoid cystic carcinoma [6]. Despite its rarity, several cases and studies have provided insights into its clinical and pathological behavior, diagnosis, and treatment. Adenoid BCC typically presents in sun-exposed areas of the body, reflecting the primary role of ultraviolet [UV] radiation in its pathogenesis [7]. However, there are documented cases of adenoid BCC at less common sites such as the vulva and axilla, indicating that UV exposure is not the sole risk factor [8, 9].

This subtype usually manifests as a nodular lesion, often resembling benign conditions like sebaceous cysts or other variants of BCC, which can complicate initial clinical assessment [10].

Histologically, adenoid BCC is characterized by basaloid cells arranged in an adenoid or gland-like pattern, often with stromal retraction and mucin deposition. Immunohistochemical staining is essential for accurate diagnosis, differentiating it from other entities such as adenoid cystic

carcinoma and primary cutaneous adenoid cystic carcinoma. [11,12] The histological overlap between adenoid BCC and other tumors necessitates careful examination. For instance, distinguishing between adenoid BCC and adenoid cystic carcinoma involves noting differences in cellular morphology and growth patterns. Adenoid BCC generally lacks the aggressive features of adenoid cystic carcinoma, such as perineural invasion and a more infiltrative growth pattern [13]. Immunohistochemical markers, including p63 and Ki-67, aid in differentiating these entities, as adenoid BCCs typically show a distinct staining pattern compared to their more aggressive counterparts. The treatment for adenoid BCC follows the general approach for BCCs, primarily involving surgical excision with clear margins. Given its relatively indolent behavior, the prognosis for adenoid BCC is generally favorable, especially when compared to more aggressive BCC subtypes. Nonetheless, there are instances of recurrence and the potential for significant local invasion, necessitating vigilant long-term follow-up [14].

Conclusion

Adenoid BCC, while rare, presents unique diagnostic and therapeutic challenges due to its histopathological similarities with other glandular neoplasms. Accurate diagnosis through comprehensive histological and immunohistochemical analysis is crucial for appropriate management. The prognosis is generally good, but continued research into targeted therapies may improve outcomes for more challenging cases.

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