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Case Report *Volume 5 Issue 1*

Recherche Entity-Basal Cell Adenoma of the Parotid gland: A Case Report and Review of Literature

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Abstract

Basal cell adenoma of the salivary gland is an infrequently encountered monomorphic adenoma, representing approximately 1–2% of all salivary gland tumors. It typically manifests as a firm, slowly enlarging mass in the parotid gland. Histologically, it is characterized by isomorphic cells arranged in nests and interlaced trabeculae, accompanied by a prominent basal membrane and a slack, hyaline stroma, devoid of myxoid or chondroid features. Due to its tendency to recur, differential diagnosis with pleomorphic adenoma, adenoid cystic carcinoma, basal cell adenocarcinoma and basaloid squamous cell carcinoma is crucial for prognostic evaluation and management. This report details a case of basal cell adenoma of the parotid gland, along with a review of the relevant literature, focusing on diagnosis and treatment strategies for this rare entity.

Keywords: Basal Cell Adenoma; Parotid Gland

Abbreviations

FNAC: Fine needle aspiration cytology; CT: computed tomography; WHO: World Health Organisation.

Introduction

Basal cell adenoma of the salivary glands is a rare, low-grade tumor with a high recurrence rate but generally good prognosis, first documented by Kleinsasser O, et al. [1]. Initially classified as a monomorphic adenoma in the 1972 WHO Classification of Salivary Gland Tumors, it was later recognized as an independent entity in subsequent editions, alongside tumors such as Warthin tumor and myoepithelial tumor [2]. The parotid gland is the most common site for this tumor. Given the varied prognosis associated with different salivary gland tumors, accurate diagnosis is essential. This report presents a case of basal cell adenoma of the parotid gland.

Case Report

A 49-year-old female presented to our Out-patient Department with a one-year history of swelling in the left parotid region, which she noticed on casual palpation. Examination revealed a single, firm, non-tender swelling over the left parotid area (Figures 1 & 2), measuring approx. 5 x 3 cm with no palpable lymphadenopathy and intact function of cranial nerve VII. Fine needle aspiration cytology (FNAC) suggested low-grade epithelial proliferation consistent with a pleomorphic adenoma, although the scant stroma indicated potential deviations from standard patterns, necessitating further evaluation.

To further assess the suspected superficial left parotid gland tumor, a contrasted computed tomography (CT) scan was performed, utilizing submillimeter axial scans from the base of the skull to the clavicle. The imaging revealed a well-defined soft tissue mass in both the superficial and deep lobes of the

left parotid gland, measuring approximately 49.2 x 25.5 mm with a cranio-caudal extent of 52.6 mm. The lesion exhibited popcorn-like peripheral calcifications, and post-contrast imaging revealed heterogeneous enhancement with areas of necrosis (Figure 3). Due to its radiological features like contrast enhancement during early phase in CT and gradual progression, it was interpreted as a benign tumor, with no cervical lymphadenopathy observed in the submandibular, jugulodigastric, or posterior cervical regions.

A modified Blair incision was made, followed by dissection of the superficial fascia and platysma. Total parotidectomy was performed, resulting in the excision of the gland. The gross specimen measured approximately 4.5 x 3 x 2.5 cm and appeared firm and grayish white (Figures 4-6). Histopathological examination confirmed the diagnosis of basal cell adenoma (Figures 7 & 8), revealing no evidence of dysplasia or malignant transformation. The patient's postoperative recovery was uneventful, with satisfactory healing (Figure 6).

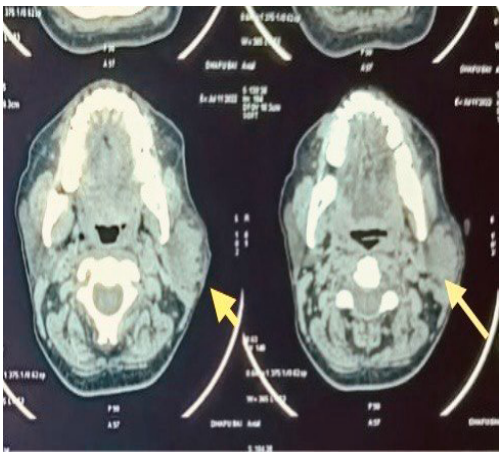

Figure 3: Preoperative computed tomography of patient with asymptomatic mass on the left cheek, shows a well-defined homogenous mass (yellow arrow) in left parotid gland.

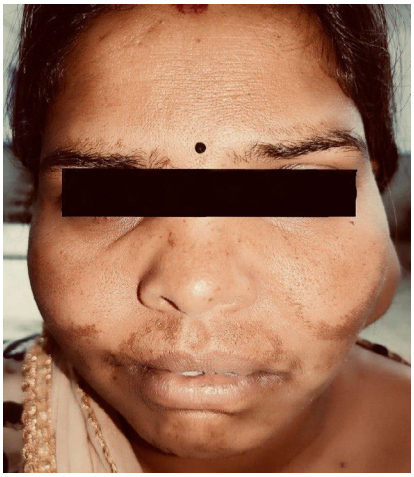

Figure 1: Preoperative clinical picture of patient.

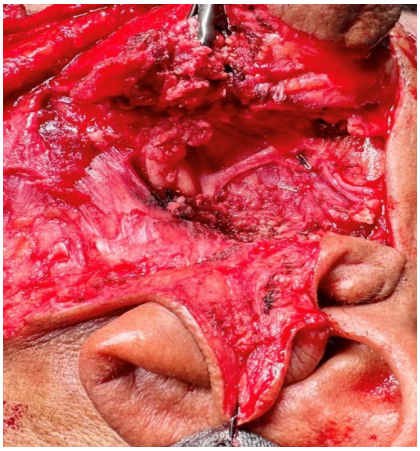

Figure 4: Intraoperative clinical photograph. All facial nerve branches were preserved.

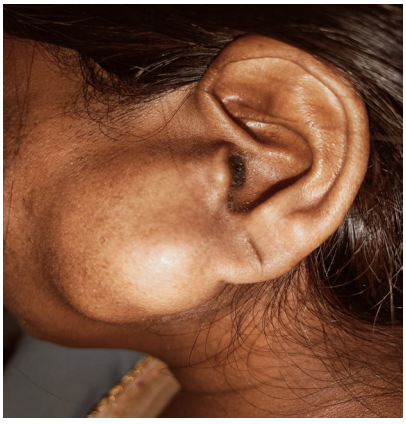

Figure 2: Preoperative clinical picture of patient (side profile).

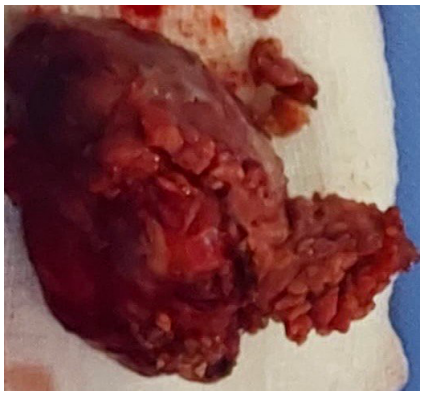

Figure 5: Excised mass and superficial lobe of parotid gland.

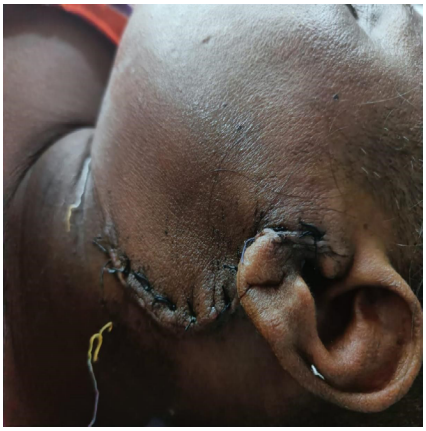

Figure 6: Postoperative picture on seventh day of operative procedure.

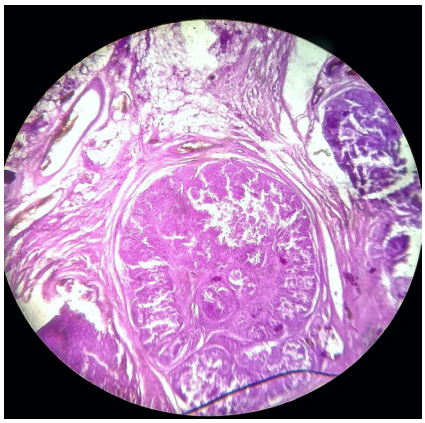

Figure 7: Hematoxylin and eosin-stained image of the mass. Basaloid cells with numerous tubules and basal cell lining are observed no evidence of necrosis or chondromyxoid matrix.

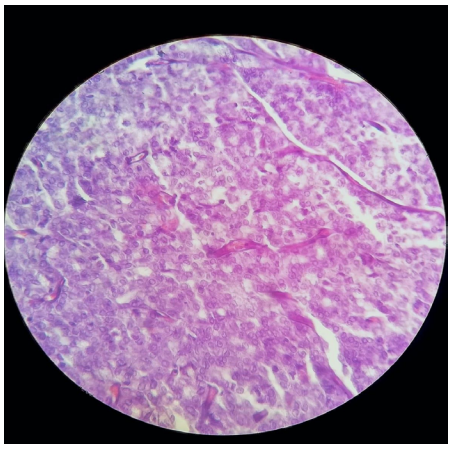

Figure 8: Tubular pattern of Basal cell adenoma on Hematoxylin and eosin-stained image (x400).

Discussion

Salivary gland neoplasms account for approximately 3-6% of all head and neck tumors, with a global incidence ranging from 0.4 to 13.5 per 100,000 individuals [3]. Most salivary gland tumors are benign and exhibit a wide range of histopathological diversity. The World Health Organisation ("WHO") currently recognizes 11 subtypes of benign epithelial tumors of the salivary glands. Notably, 64–80% of primary neoplasms arise in the parotid gland, while 7-11% occur in the submandibular gland, less than 1% in the sublingual gland, and 9-23% in minor salivary glands [4]. These tumors predominantly affect individuals in their fourth to seventh decades of life, with a higher prevalence in women [5,6].

Monomorphic adenomas are rare, classified as benign epithelial tumors of the salivary glands that are not pleomorphic adenomas. Basal cell adenoma is the most prevalent variant within this category. While commonly found in the parotid gland, it may also occur in locations such as the upper lip, buccal mucosa, lower lip, palate [7], and nasal septum [8]. Diagnosis is established through histological analysis, with biopsy being the most accurate diagnostic method.

Histologically, basal cell adenoma is distinguished by the presence of uniform basaloid cells with two intermingled morphologies. One group consists of small cells with minimal cytoplasm and prominent basaloid nuclei, typically located at the periphery of the tumor nests. The second group comprises of larger cells with abundant cytoplasm and pale nuclei, found in the centers of the nests. A basal membrane-like structure surrounds these nests, separating them from the surrounding connective tissue [9].

In our case, the histological examination revealed basaloid cells arranged in an external stockade pattern, with pale nuclei centrally positioned in the nests. The basal membrane-like structures surrounding the cellular nests displayed intense eosinophilia, characteristic of basaloid cells. No mitotic figures or perineural invasion were identified. Basal cell adenoma can exhibit four growth patterns: solid, trabecular, tubular, and membranous, with our case identified as the membranous subtype (Figure 7,8). Accurate differential diagnosis is imperative, particularly with potentially malignant entities such as basal cell adenocarcinoma, adenoid cystic carcinoma, and basaloid squamous cell carcinoma.

The primary treatment for basal cell adenoma is surgical excision, typically via superficial or total parotidectomy, especially when the deep lobe is involved. Total parotidectomy is recommended for the membranous subtype due to its

tendency for multicentricity, recurrence, and potential malignant transformation. Despite its generally benign nature, long-term follow-up is crucial for monitoring possible recurrences as in membranous type of BCA high recurrence up to 25% even after enucleation is reported [10].

Conclusion

Basal cell adenoma is a rare variant among salivary gland tumors. Its occurrence in individuals in their fifth and sixth decades of life underscores the necessity of differential diagnosis with basal cell adenocarcinoma, adenoid cystic carcinoma and basaloid squamous cell carcinoma to differentiate it from malignant tumors arising in the same anatomical region.

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