International Journal of Otorhinolaryngology and Head and Neck Surgery
Shendge NA et al. Int J Otorhinolaryngol Head Neck Surg. 2024 Dec;10(6):780-783
http://www.ijorl.com
pISSN 2454-5929 | eISSN 2454-5937

DOI: https://dx.doi.org/10.18203/issn.2454-5929.ijohns20243529

Case Report

Basal cell adenoma-parotid: a rare entity

Neha Anand Shendge[1]*, Sukrit Bose[1], Alokendu Bose[1], Suvojit Ghosh[1], Sanjiban Patra[2]

[1]Department of Otolaryngology, Apollo Multispeciality Hospital, Kolkata, West Bengal, India
[2]Department of Histopathology, Apollo Multispeciality Hospital, Kolkata, West Bengal, India

Received: 19 September 2024
Revised: 09 November 2024
Accepted: 13 November 2024

***Correspondence:**
Dr. Neha Anand Shendge,
E-mail: shendgeneha1506@gmail.com

ABSTRACT

Basal cell adenoma is a rare benign tumour found in the parotid gland, typically in patients aged between their fifth and seventh decades. In two cases we observed, patients presented with a gradually increasing, painless, and movable swelling in the parotid region. The condition was successfully managed through a Superficial Parotidectomy operation, and the final histopathological report confirmed the presence of basal cell adenoma.
This tumour is one of the 11 benign salivary gland tumours classified by the WHO and represents only 3% of head and neck neoplasms. It is primarily located in the superficial parotid gland, and due to its rarity, there is limited literature available on this entity. Diagnosing such tumours is crucial, as non-invasive diagnostic procedures are not always reliable in distinguishing between benign and malignant conditions. A differential diagnosis with basal cell adenoid cystic carcinoma and basaloid squamous cell carcinoma is necessary due to their differing prognostic implications. Early and accurate identification is essential to guide appropriate treatment and improve patient outcomes.

Keywords- Basal cell adenoma, Parotid, Monomorphic basaloid epithelial cells

INTRODUCTION

Basal cell adenoma (BCA) accounts for 1-2% of all salivary gland tumours.[1,2,4,5] It typically presents as a nodular swelling in the pre-auricular or infra-auricular area, most often occurring in the parotid gland region. Clinically, it manifests as a mobile, slow-growing, non-tender mass that gradually increases in size.[2-4] The tumour is most commonly observed in individuals in their fifth to seventh decades of life, with a higher prevalence among females.

Morphologically, BCA tumours are categorized into two types. The first type consists of small cells with scant cytoplasm and intensely basaloid, rounded nuclei. In contrast, the second type is characterized by larger cells with abundant cytoplasm and pale nuclei, which are typically centrally located within tumour nests.[4] These tumours are rare, making their diagnosis a novelty. Due to their infrequent occurrence, they can pose a diagnostic challenge, particularly in cytological preparations, which may complicate the decision-making process for surgical treatment. A hallmark of BCA is the monomorphic basaloid epithelial cell proliferation observed in histopathological examinations.[6] Despite their benign nature and slow progression, BCAs require careful evaluation, as their rarity and overlapping features with other salivary gland tumours can create diagnostic uncertainty.

CASE REPORTS

Case 1

A 45-year-old Female patient came to the OPD with complaints of swelling in the right parotid region for the past eight years. Initially, a small swelling was noted which gradually progressed reaching up to 3×3 cm firm,

non-tender mobile mass. No history of pain, discharge, difficulty swallowing or chewing was noted. FNAC was done, which was suggestive of atypia of undetermined significance- Grade III. Necessary investigations were done and the patient was planned for left superficial parotidectomy followed by which the specimen was sent for HPE. The final histopathological report confirmed a tubular trabecular type basal cell adenoma.

Case 2

A 49-year-old female presented to the OPD with complaints of left-sided parotid swelling for the past two months. No history of fever, pus-like discharge, or pain was noted. FNAC was done which was suggestive of salivary gland neoplasm of uncertain malignant potential (SUMP), cellular basaloid neoplasm. This patient too was scheduled for left superficial parotidectomy and the specimen was sent for histopathological examination. The histopathological report suggested basal cell adenoma.

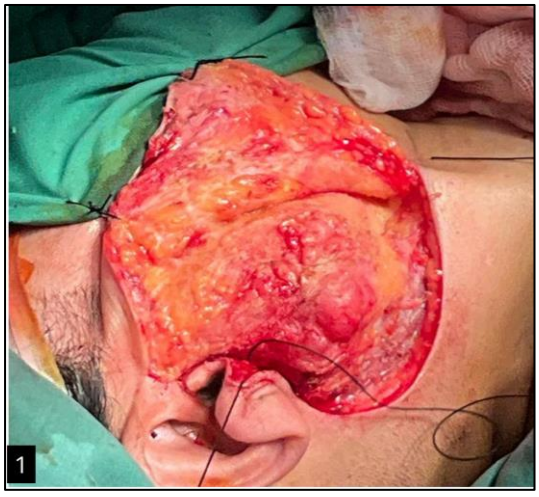

Figure 1: Firm and mobile parotid swelling.

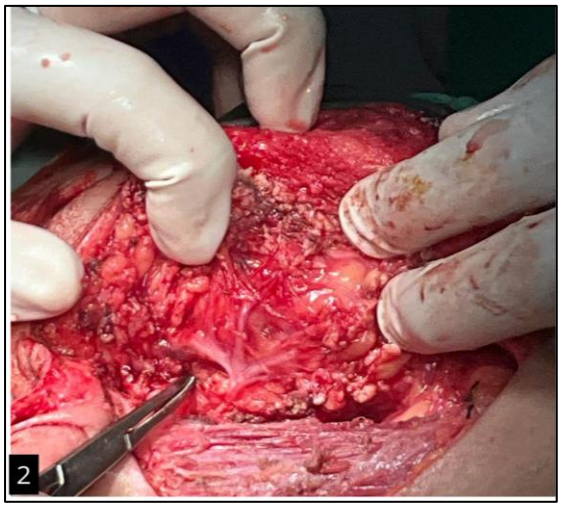

Figure 2: The tumour dissected out showcasing the branches of the facial trunk.

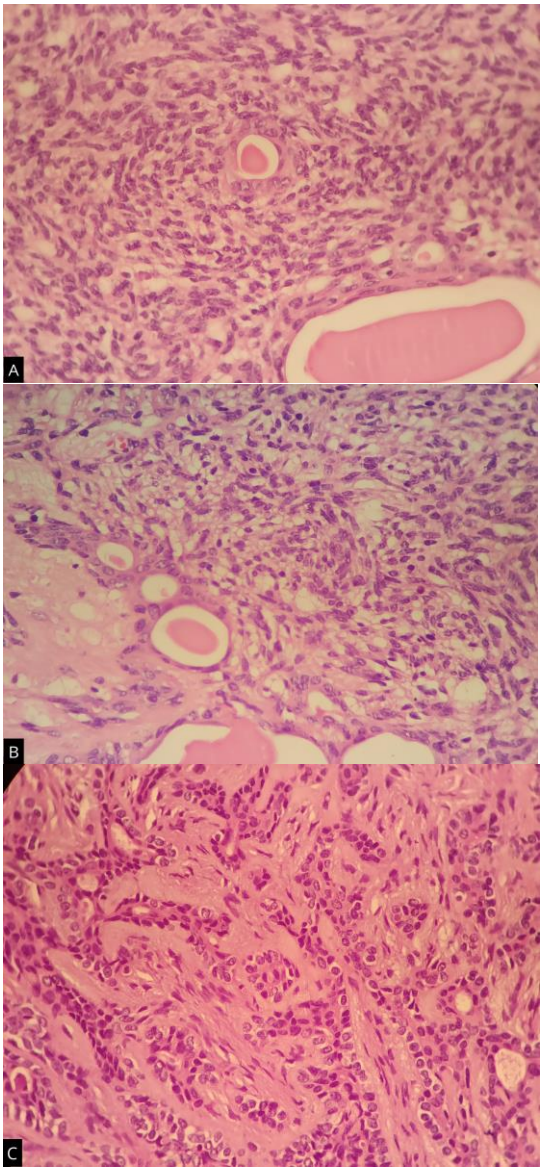

Figure 3: (A and B) High power view of image tumour composed of interconnected trabeculae (H&E 40x) & (C) high power view showing 2 types of tumour cells- luminal epithelial cells surrounded by myoepithelial cells (H&E 400x).

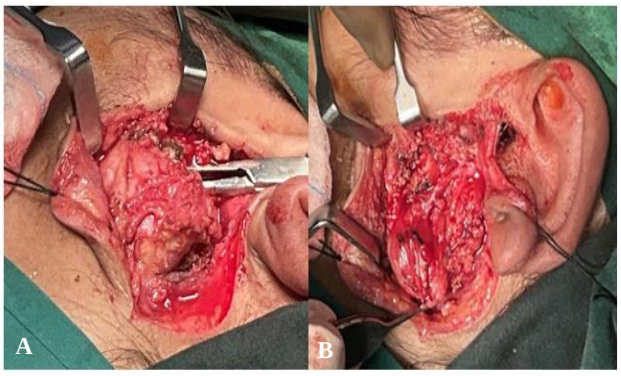

Figure 4 (A and B): Showcasing firm lobulated swelling in the superficial parotid lobe.

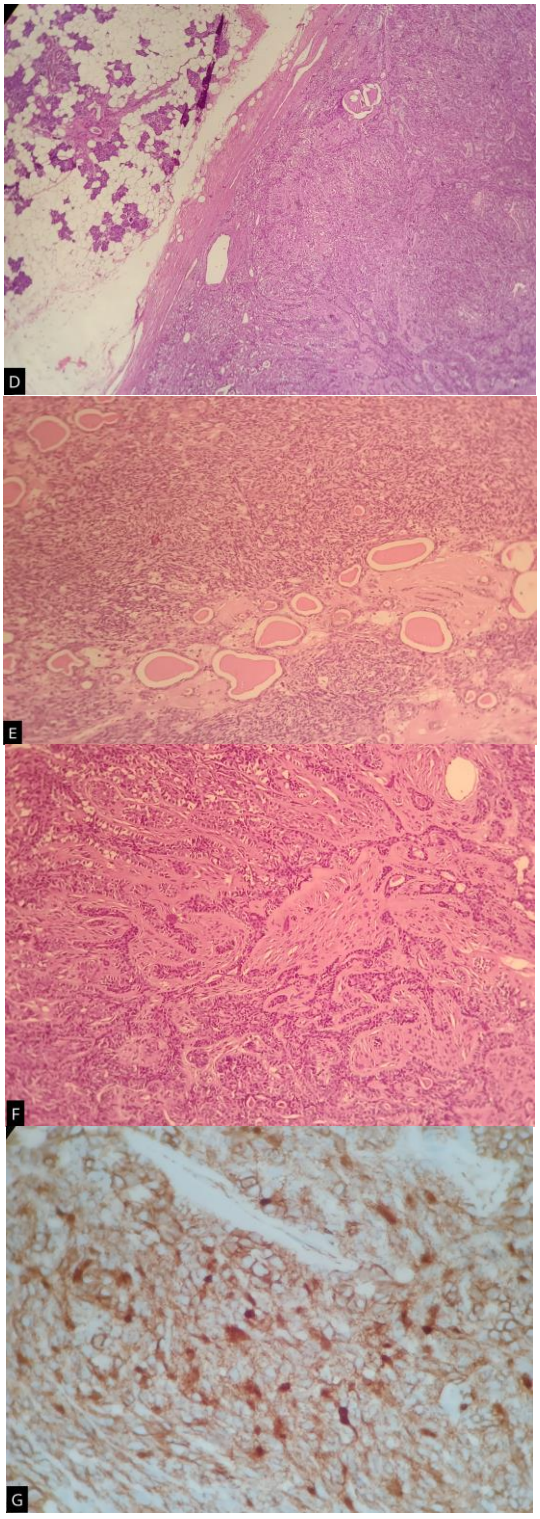

Figure 5: (D) Low power view of circumscribed tumour (right side) and adjacent normal salivary gland (left side) (H&E 40x); (E) tumor composed of interconnected trabeculae forming reticular pattern and few tubules with eosinophilic secretion in the lumen (H&E 100x); (F) tumor cells arranged in trabeculae and nests separated by collagenous stroma (H&E 100x); (G) nuclear and cytoplasmic Beta-catenin expression by tumour cells (IHC 400x).

DISCUSSION

Basal cell adenoma (BCA) was once considered to be a type of monomorphic adenoma, it was included in the WHO criteria in the year 1991.[1,2] The WHO has classified BCA into one of the 11 different types of benign salivary gland tumours. Salivary gland tumors are uncommon, presenting only 3% of the total neoplasms of the head and neck; in which BCA represents only 1-2% of all salivary tumors. It is a rare entity hence limited studies are found in literature. It is most commonly found in the parotid gland, with its predilection in the 5th to 7th decade.[1,2] In many of the cases, it was noted to be situated in the superficial parotid lobe. The most common location is a parotid gland whereas other sites have also been noted, which were the upper lip, buccal mucosa, lower lip, palate and nasal septum.[2]

Its most common presentation is mobile, painless, slow-growing, capsulated and usually does not exceed 3 cm of major diameter with a gross appearance of brownish discolouration along with capsular or vascular invasion, Atypia and necrosis are usually absent.[1,2,4,6,8] Among the monomorphic adenoma types, the following were included–warthin's tumour, Oncocytoma, BCA, canalicular adenoma, and Sebaceous adenoma.[2]

These tumours are divided morphologically into two types - The first one is formed by small cells with scars cytoplasm and intensive basaloid rounded nuclei, whereas the other consists of large cells with abundant cytoplasm along with pale nuclei located in the centre of the tumour nests.[2,3] Histologically, it has four growth patterns. Those are solid, trabecular, tubular, and membranous types.[2,4,6] It has been noted that Trabecular and membranous types were the ones most suspected to undergo malignant transformation.

The solid type is similar to the skin's basal cell carcinoma with solid nests of basaloid cells surrounded by an outer layer of columnar/cuboidal cells. The trabecular type has basaloid cells arranged in narrow strands and cords separated by a fibrous and vascular stroma. The tubular type has basaloid cells and multiple small duct lumens lined by eosinophilic, cuboidal cells.[6] Immunohistochemistry has been studied for a more accurate diagnosis and nuclear β-catenin expression is known to be common in BCA and BCAC, unlike other salivary gland tumours.

Histopathology is the diagnosis of choice; The absence of capsular invasion is confirmed during diagnosis. The benign and malignant cells are indistinguishable, making FNAC separating these two tumours almost impossible. Invasion of surrounding tissue is most critical to distinguish basal cell adenocarcinoma from benign lesions, sometimes histopathology can also be difficult and hence immunohistochemistry is required.[4]

Immunohistochemistry–CK7, smooth muscle actin, KI67 can distinguish between benign and malignant Basal cell neoplasm. Around half of BCAs carry B-catenin (ctnnb1) in the gene also noted in BCAC.[4,6] The malignant transformation is rare and is reported in cases of adenoid cystic carcinoma, X monomorphic, adenoma, and basal cell adenocarcinoma.4 The membranous type of BCA has a high recurrence rate of almost 25% and hence it is recommended to do close monitoring even after enucleation.[6,8]nThe differential diagnosis should include pleomorphic, adenoma, canalicular adenoma and sebaceous adenoma. Basal cell lesions commonly arise from the intercalated ductal structures and can be divided into hyperplasia and adenoma resembling BCA.[4]

All variants of basal cell adenoma are treated with wide local excision except the membranous type-which requires extensive surgery due to increased recurrence.[3] Parotidectomy remains the treatment of choice and enucleation is not recommended due to higher rates of local recurrences. In cases where a tumour is located in the deep lobe, total parotidectomy is recommended as there is a high probability of malignancy.[6-8]

CONCLUSION

BCA is an uncommon benign tumour. As the tumour is present in the fifth and seventh decade of life a high index of suspicion is necessary to differentiate it from malignant tumours arising from the same location. Although the previous studies confirm that these tumours have favourable outcomes, especially if surgery is done along with capsular dissection at a low T stage, Further research is required. Additionally, surgeons should communicate the potential for malignancy to patients, even if the cases with preoperative FNC were benign in the result.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Park C, Min S, Park JK, Kim JH. Basal cell adenoma and basal cell adenocarcinoma of the parotid gland: clinical findings and surgical outcomes in a single-institution study. World J Surg Oncol. 2024;22(1):102.
2. Kanaujia SK, Singh A, Nautiyal S, Ashutosh K. Basal cell adenoma of parotid gland: case report and review of literature. Ind J Otolaryngol Head & Neck Surgery. 2015;67:430-3.
3. Bhat A, Rao M, Geethamani V, Shetty AC. Basal cell adenoma of the parotid gland: Cytological diagnosis of an uncommon tumor. J Oral and Maxill Pathol. 2015;19(1):106.
4. Alzahrani RA. A Rare Case of Recurrent Carcinoma Ex Basal Cell Adenoma of the Parotid Gland. Cureus. 2023;15(10):345-8.
5. Pandey P, Bhake A. Cytodiagnosis of basal cell adenoma of parotid gland: a rare case report. Cureus. 2023;15(3):65-8.
6. Yoon S, Kim Y, Moon SH. Basal cell adenoma of parotid gland: two case reports and literature review. Archives of Craniofacial Surg. 2023;24(4):179.
7. Alrohaimi FA, Alanazi FM, Almutairi AB, Almousa HM, Alqahtani SM. Basal cell adenoma of the parotid gland: a rare disease entity. Cureus. 2023;15(3).
8. Ben Abdeljelil N, Masmoudi M, Thabet W, Bellalah A, Chebil E, Hasnaoui M, Mighri K. Basal cell adenoma of the parotid gland: A rare entity. Ear, Nose & Throat J. 2024;103(4):219-22.

Cite this article as: Shendge NA, Bose S, Bose A, Ghosh S, Patra S. Basal cell adenoma-parotid: a rare entity. Int J Otorhinolaryngol Head Neck Surg 2024;10:780-3.