

BASAL CELL ADENOMA OF THE SUPERFICIAL PAROTID GLAND – A RARE CASE REPORT**Dr. Yengkhom Daniel Singh*¹ and Dr. Hemalatha Ganapathy²**¹Post Graduate, Department of Pathology, Sree Balaji Medical College and Hospital, Chennai.²HOD & Professor, Department of Pathology, Sree Balaji Medical College and Hospital, Chennai.***Corresponding Author: Dr. Yengkhom Daniel Singh**

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ABSTRACT

The term 'monomorphic' adenoma was used for all benign salivary gland tumours except for pleomorphic adenoma.^[1] Basal cell adenoma (BCA) is a rare form of benign salivary gland neoplasm comprising small basaloid cells and ductal epithelial cells as nests and cords.^[2] It is commonly seen in women above their 4th/5th decade and accounts for 1-3.7% of all salivary gland tumours.^[2,3] The prognosis of BCA is comparatively very good to its counterpart 'basal cell adenocarcinoma' therefore, is of utmost importance in differentiating the two.^[2] We discuss a rare case of basal cell adenoma of the superficial parotid gland.

KEYWORDS: Monomorphic, Pleomorphic, Basaloid, Adenoma, adenocarcinoma.**INTRODUCTION**

Basal cell adenoma is a rare form of benign salivary gland neoplasm comprising small basaloid cells and ductal epithelial cells as nests and cords.^[2] It occurs most commonly in the parotid gland but rare occurrences in periparotid lymph nodes and other minor salivary glands have also been noted.^[4]

Macroscopically, they are encapsulated, homogenous and often cystic with well circumscribed margin with light tan to brown cut surfaces.^[5] The membranous variety, often tend to be multifocal and multinodular.^[5]

Surgical excision is the treatment of choice for BCA.^[5] Recurrence is very rare except for the membranous type of BCA with recurrence rate of 25%, owing to its multifocal nature.^[6]

BCA rarely undergo malignant transformation (4%) to basal cell adenocarcinoma, adenoid cystic carcinoma, salivary duct carcinoma or adenocarcinoma NOS (not otherwise specified).^[7,8] Transformation rate also is higher in membranous variety of BCA (28%).^[6]

CASE REPORT

Case: A 40 years old women came to the Surgery OPD with complaints of a swelling over the right side of the neck, just below the ear for the past 8 years.

On examining, a swelling was present in the right parotid region, measuring 2 x 2 cm approximately. The swelling was firm in consistency, non-tender and immobile.

Fnac of the swelling was done and was interpreted as Monomorphic adenoma. Smears showed numerous uniform basaloid cells with round to oval nuclei and scanty cytoplasm. The cells form irregular nests and trabeculae with occasional tubular or peripheral palisading structures. Background stroma shows intermixing with the epithelial cells.

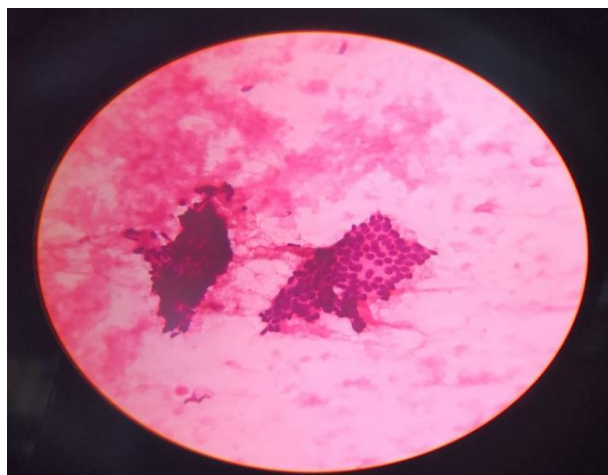


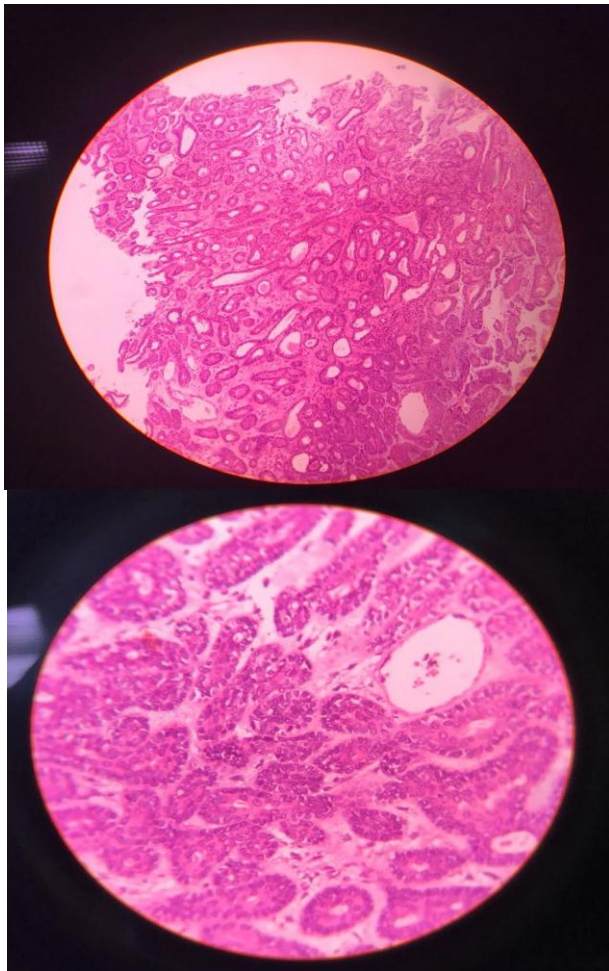
Figure 1: FNAC of the parotid swelling; May-Grünwald Giemsa (MGG) stain.

Basaloid cells with round to oval nuclei and scanty cytoplasm arranged in irregular nests and trabeculae

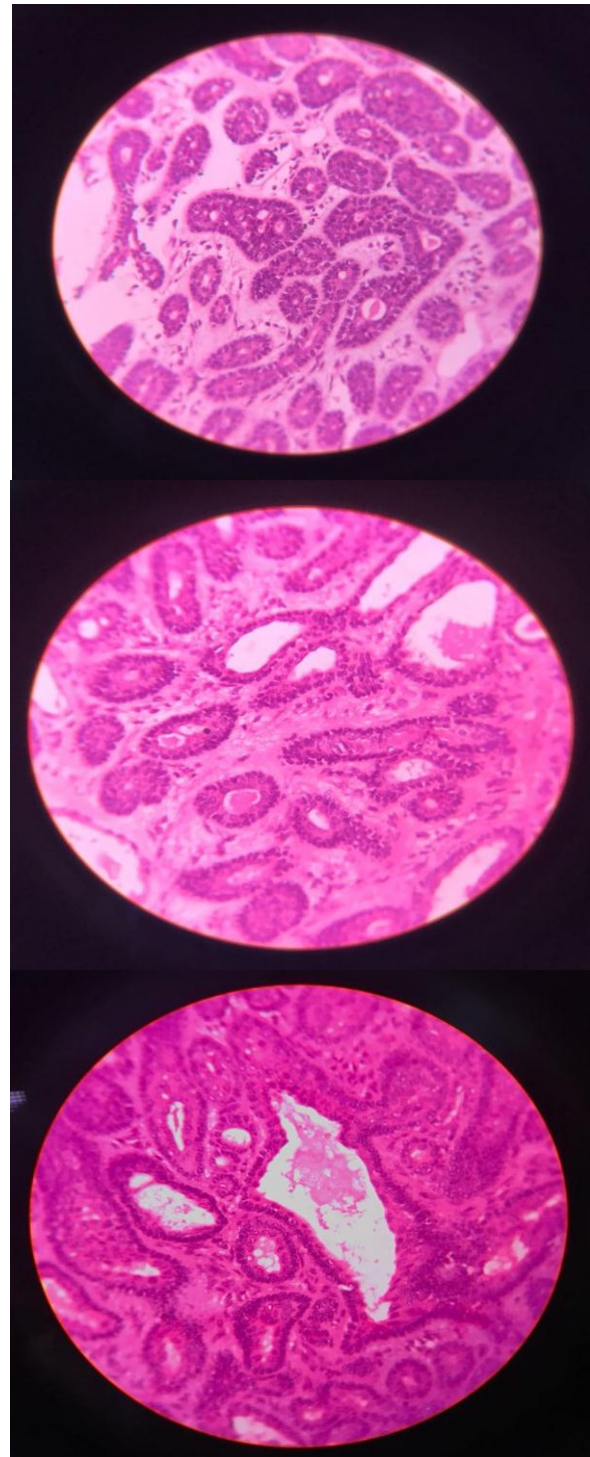
Histopathology

We received multiple grey white soft tissue fragments. The largest fragment measured 2.5 x 1.5 x 1 cm; smallest fragment measured 0.5 cm in diameter. Cut surface of largest fragment was grey white in colour with focal cartilagenous tissue which was firm. Cut surface of the smallest fragment was also grey white and firm. Three random bits were taken and embedded. Remaining tissue was left for storage.

Examination: Sections showed tumour composed of bi-layered strands of columnar cells in a loose and well vascularised stroma. The tumour cells were arranged in tubules, nests and trabecular pattern with **peripheral palisading**, resembling basaloid appearance. There is deposition of eosinophilic material within the tubules. No evidence of atypia was noted.



Figures 2: (10x), 3,4(40x): H&E. Tumour cells with bi-layered strands of columnar cells in a loose and well vascularised stroma arranged in tubules, nests and trabecular pattern with peripheral palisading.



Figures 5,6: (40x): H&E. Cystic degeneration and deposition of eosinophilic material within the tubules.

Impression: Basal Cell Adenoma.

DISCUSSION

The diagnosis of BCA is made by Histological examination supported by cytological findings as well as clinical profile of the patient.

Immunohistochemistry i) Epithelial markers (demonstrated in luminal cells) - low molecular weight

cytokeratin, CEA, EMA.^[5] ii) Myoepithelial markers (demonstrated in peripheral basaloid cells) – p63, calponin, actin, GFAP, S100.^[9,10,11]

iii) Nuclear expression of β -catenin (CTNNB1 gene).^[12] BCA has an excellent prognosis with a very low recurrence rate; sparing the membranous type, which has a recurrence rate of approximately 25%.^[6] Transformation of BCA to basal cell carcinoma rarely occurs, but has a higher tendency in the membranous type (28%).^[7,8]

BCA has 4 histological patterns: 1) Solid pattern, characterized by sheets of basaloid cells separated by collagenous stroma. 2) Tubular pattern, characterized by glandular formations. 3) Trabecular pattern, characterized by nests and cords of basaloid cells separated by cellular stroma. 4) Membranous pattern, characterized by thick bands of hyaline material at the periphery of basaloid cells.^[13,14,15,16,17]

The membranous variant can be distinguished by PAS-positivity of the hyaline basal lamina.^[5] Focal metaplasia can also occur.^[5] It should be distinguished clinically from a malignant tumour due to its multinodularity and salivary gland entrapment.^[5]

Membranous basal cell adenoma should be microscopically distinguished from dermal cylindroma.^[18,19] An entity, Brooke-Spiegler syndrome (familial cylindromatosis or turban turner syndrome) caused by germline mutation of CYLD gene at chromosome 16q12-q13 is frequently synchronous with membranous basal cell adenoma; giving the later the name 'dermal analogue tumour'.^[20,21]

Cribriform variant of BCA, may sometimes be mistaken for adenoid cystic carcinoma due to its cribriform appearance.^[1,5] They are encapsulated and present as cystically dilated spaces (pseudocysts) grouped together as expanded jigsaw puzzle-like lobules which merge with the basaloid lobules of BCA.^[22] Focally S100+ spindle cells are present in the stroma.^[5]

Pleomorphic adenoma is distinguished from BCA by the typical presence of fibrillary chondromyxoid ground substance with variable cellularity and poorly cohesive clusters & sheets.^[23,24] Myoepithelial cells are mainly spindle shaped with regular ovoid nuclei.^[23,24]

Basal cell adenocarcinoma is the malignant counterpart of BCA and presents with similar architecture and immunohistochemistry profile.^[25,26,27,28] They differ from BCA in their infiltrative quality, perineurial spread, vascular invasion, cytologic atypia and mitotic activity.^[1]

IHC profiling of p53, BCL2, EGFR expressions can also be done.^[29]

CONCLUSION

This was a rare case of basal cell adenoma in the superficial parotid gland. The clinical, cytological and histological features are relevant in diagnosing and classifying BCA into its patterns. The common confusing differential diagnosis and histomorphology have been reviewed. Newer techniques like IHC may also help in diagnosing BCA and differentiate from other salivary gland tumours.

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