

Basal Cell Adenoma of the Parotid Gland

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ABSTRACT

Basal Cell Adenoma (BCA) known as monomorphic adenoma is a rare type of benign epithelial salivary neoplasm that mostly occurs in the parotid gland. Clinically BCA appears as a firm, mobile, slow-growing mass and is usually diagnosed during the histopathological examination of the resected surgical specimen. Histological differential diagnosis ranges from benign to malignant neoplasms such as pleomorphic adenoma, basal cell adenocarcinoma, adenoid cystic carcinoma and basaloid squamous cell carcinoma. The treatment of BCA is surgical excision, due to its varied prognosis with the different histological subtypes; a regular long term follow up of the patient postoperatively is mandatory. We report a rare and interesting case of basal cell adenoma of the parotid gland in a 52 year old female. We review the literature; discuss the diagnosis and management of this rare histological entity.

KEY WORDS

Basal cell adenoma, Benign salivary gland tumours, Monomorphic adenoma, Parotid gland

INTRODUCTION

Basal cell adenoma (BCA) of the salivary glands is a rare epithelial salivary gland neoplasm and represents 54% of monomorphic adenomas and 1-2% of all salivary gland tumours.¹ BCA has been acknowledged as a separate entity by World Health Organization (WHO) in the Second Edition of the Salivary Gland Tumours Classification.²

BCA most commonly occurs in the parotid gland in adults and almost equally in both genders.³ Clinically BCA presents as an asymptomatic, freely mobile, nodular parotid swelling. The pre operative cytodiagnosis is extremely challenging and can be misleading as they mimic several benign and malignant salivary and non-salivary gland tumors, necessitating a thorough histopathological examination.⁴ The radiological investigations is also challenging as they lack specific radiological features and usually presents as a hyperdense lesion and as multiple nodules.⁵

We report an interesting and rare case of BCA with discussion on clinical presentation, histological subtypes and management that we encountered.

CASE REPORT

A 52 year old female patient presented to the outpatients department of otolaryngology with complaints of painless swelling in the left parotid region slowly progressing in size, of nearly five years duration. She had no other complaints. On clinical examination, there was a firm, diffuse swelling of size 3 x 3 cm, below the left ear, lifting the ear lobule, slightly mobile, and non tender. There were no palpable cervical lymph nodes and the facial nerve functions were normal. No other significant findings were noticed on clinical examination.

Fine needle aspiration cytology (FNAC) of the swelling revealed features suggestive of a Pleomorphic adenoma and suggested biopsy for further confirmation.

Contrast enhanced CT Scan of the Head and neck showed a well defined focal lesion with contrast enhancement (hyperdense lesion) of 2.4 x 1.9 cm noted in the superficial lobe of parotid gland and the deep lobe of the parotid was normal (fig. 1). A superficial parotidectomy was planned for this patient.

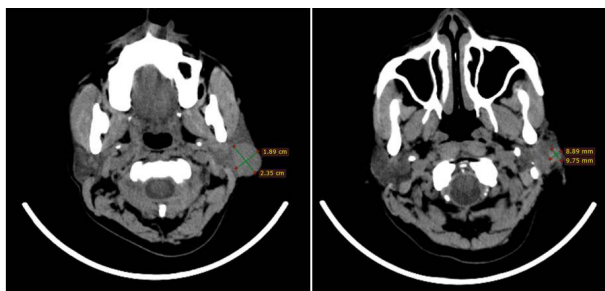


Figure 1. CECT axial sections of head and neck showing well defined, smooth margined two hyperdense nodules in the parotid measuring 2.35x1.09 cms and the other nodule measuring 0.7x0.9 cms in the superficial lobe of the left parotid gland in the posteroinferior aspect.

Per-operatively a modified Blair's incision was made and submusculoaponeurotic system was identified. Two cystic nodules were noted in the superficial lobe; largest measuring 3 x 3 cm and smallest measuring 1.5 x 1 cm occupying the tail of the parotid gland (fig. 2). A left superficial parotidectomy with facial nerve preservation was carried out. The deep lobe of parotid gland was grossly normal. Post operative period was uneventful.



Figure 2. Peroperative image showing two cystic nodules in the superficial lobe of parotid gland.

The histopathology examination revealed well encapsulated benign salivary gland neoplasm. The tumor was predominantly solid and partly cystic, composed of monomorphic population of basaloid cells (fig. 3). These cells were arranged mainly in solid sheets and clusters with focal areas of trabecular and microcystic pattern. The cell clusters were separated by thin eosinophilic "basement membrane like" material (fig. 4). These basaloid cells revealed round regular blue nucleus with inconspicuous nucleoli and scant cytoplasm. There was evidence no nuclear atypia and no mitotic figures were seen. There was also no evidence of chondromyxoid mesenchymal stroma. Hence a histological diagnosis of basal cell adenoma or monomorphic adenoma was made.

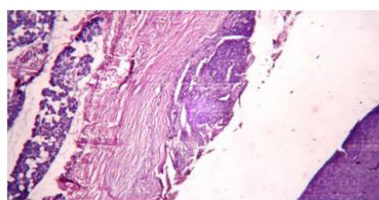


Figure 3. Histopathology of tumor showing well encapsulated tumor composed of basaloid population of cells. Tumor is predominantly solid with focal cystic areas (H & E stain, 10 x magnification)

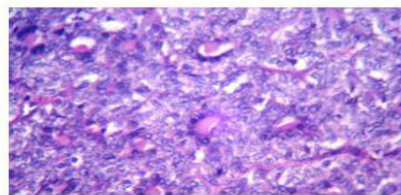


Figure 4. Histopathology of tumor showing monomorphic basaloid cells arranged in sheets and small clusters with eosinophilic hyaline basement membrane material in between. These features favor the diagnosis of Basal Cell Adenoma or Monomorphic Adenoma of Parotid gland (H & E stain, 40 x magnification).

DISCUSSION

Most salivary gland neoplasms (70-80%) are benign and Pleomorphic adenoma is known to be the most common among all.¹ Among the adenomas group, the monomorphic tumours are very rare about 1-2%.² Basal cell adenomas or monomorphic adenomas are defined as epithelial benign tumours of the salivary glands that lacks the chondromyxoid mesenchymal component of pleomorphic adenomas.³

Till date about 42 cases of cytologically diagnosed BCA have been reported from worldwide with review of literature.⁴ Over 16.7% cases have shown false-positive and false-suspicious diagnoses, showing that cytological overlapping features of BCA and difficulties in distinguishing between pleomorphic adenoma and adenoid cystic carcinoma.^{4,5}

The histology of basal cell adenoma has monomorphic population of cells, hence called as monomorphic adenoma. It is composed of basaloid epithelial cells separated by a distinct basement membrane like material.⁶ Histologically, four patterns have been recognized, the most common is Solid (sheets of basaloid cells separated by collagenous stroma), followed by the trabecular pattern (nests and cords of basaloid cells separated by cellular stroma), tubular (glandular formations) and membranous patterns (thick bands of hyaline material at the periphery of basaloid cells).⁷ Some tumors can have mixture of these patterns. The characteristic peripheral palisading that is seen in basal cell adenoma is not seen in pleomorphic adenoma. Histologically BCA are characterized by the absence of myoepithelial cells and the chondro-myxoid stroma of pleomorphic adenoma.⁷ The diagnosis of this entity must be established by careful histological study.

Among the four variants mentioned above, the membranous variant of BCA is known to have a higher tendency to go for malignant transformation. This variant is known to present as multiple nodules.^{8,9} It is known that BCA can transform to Basal cell adenocarcinoma in about 24% cases.^{7,8} Hence it is advised that during the excision, the capsule of the nodular swelling is kept intact at all point of time in order to minimize recurrence.⁹

Our case presented with classical histological features similar to those referred in the literature, consisting of well encapsulated tumor composed of basaloid epithelial cells separated by thin basement membrane like material

surrounding cellular nests and absence of myoepithelial cells and chondromyxoid stroma. Hence a histological diagnosis of Basal Cell adenoma was established. There was no evidence of atypical mitotic figures or perineural invasion or features of malignancy.

The principal treatment modality for BCA is same as that of any other benign salivary gland tumours. Surgical excision is the treatment of choice either a superficial or total parotidectomy some advise excision of nodule.¹⁰ Our patient recovered well postoperatively and is now on regular follow up after 6 months and is asymptomatic.

BCA is a rare benign epithelial salivary gland neoplasm and its cytological differential diagnoses range from benign to malignant such as pleomorphic adenoma, basal cell adenocarcinoma, adenoid cystic carcinoma and basaloid squamous cell carcinoma. Therefore a histopathological examination is considered as gold standard for definitive diagnosis. BCA differs in prognosis and therapeutic aspects in their histological variants. We would recommend a long term follow up of patients diagnosed with BCA. Although BCA is benign, early detection of recurrences, complete excision of tumor are necessary especially if the histology is suggestive of the membranous variant of BCA.

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