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CLINICAL REPORT

Basal Cell Adenoma of Parotid Gland: Case Report and Review of Literature

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Abstract Basal cell adenoma (BCA) of the salivary gland is a rare neoplasm consists of a monomorphic population of basaloid epithelial cells, and it accounts for approximately 1–2 % of all salivary gland tumors. Its most frequent location is the parotid gland. It usually appears as a firm and mobile slow-growing mass. Histologically, isomorphic cells in nests and interlaced trabecules with a prominent basal membrane are observed. In contrast to pleomorphic adenoma, it tends to be multiple and its recurrence rate after surgical excision is high. Due to prognostic implications, differential diagnosis with basal cell adenocarcinoma, adenoid cystic carcinoma and basaloid squamous cell carcinoma is mandatory. We report a case of BCA of the parotid gland. We also review the literature and discuss the diagnosis and management of this rare entity.

Keywords Basal cell adenoma · Parotid gland · Salivary gland tumors

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Introduction

Basal cell adenoma (BCA) of the salivary gland is a rare neoplasm consists of a monomorphic population of basaloid epithelial cells, and it accounts for approximately 1–2 % of all salivary gland tumours [1]. BCA appears most frequently in the parotid glands and in Adult [2–4]. Clinically, BCA is usually a slow-growing, asymptomatic, and freely movable mass. We report a case of BCA in parotid gland presenting as a asymptomatic swelling.

Case Report

A 45 year male is presented to department of otolaryngology with chief complains of swelling in left parotid region since 6 month. On examination there was single, firm, non tender swelling was palpable in left parotid region. There was no palpable lymph node in the neck and facial nerve function was intact. On fine needle aspiration cytology numerous small and large cluster as well as singly lying small basloid appearance epithelial cells having round nucleus and scant amount of cytoplasm. Findings were suggestive of BCA/monomorphic adenoma. On CT scan there was a small soft tissue density space occupying mass lesion in superficial lobe of left parotid gland. The lesion was associated with popcorn peripheral calcifications. Increased attenuating component was also seen. A modified blair incision was given and superficial fascia and platysma was incised. Superficial parotidectomy was done and nodule was excised. On grossly tumour was about 2 × 1.2 cm in dimension, firm and grayish white in appearance. On histopathology section shows Overall findings were suggestive of BCA. The patient had a

satisfactory postoperative period, with complete healing of the operated area.

Discussion

The BCA was once considered to be a type of "monomorphic adenoma". However, since 1991, according to the "Salivary Glands Tumours Histological Classification" of the World Health Organization, the name of this lesion was changed to BCA, excluding the word "monomorphic" [5] Among the "monomorphic adenomas," there are the following varieties: Warthin's tumor or papillary cystadenoma lymphomatosum, oncocytoma or oxyphilic adenoma, BCA, canalicular adenoma, and sebaceous adenoma.

The salivary gland tumors are uncommon, representing less than 3 % of all neoplasms of the head and neck [6]. Although it is the most common variant in the group of "monomorphic adenomas," BCA represents only 1 to 2 % of all salivary tumors [7].

A total of 42 cases of cytologically diagnosed BCA have been reported in the literature. False-positive and false-suspicious diagnoses accounted for 16.7 % of cases, illustrating the difficulties in distinguishing between BCA and adenoid cystic carcinoma [8].

Frequently, this slow-growing encapsulated tumour do not exceeds 3-cm of major diameter. It is a firm mobile painless mass. It is usually superficial within the glandular body, and a brownish appearance is usually observed [9]. The most frequent location is the parotid gland, although other sites are possible, such as the upper lip, buccal mucosa, lower lip, palate and nasal septum. Epidemiologically, these tumours frequently affect patients between their fifth and seventh decades, in contrast to observations in benign mixed tumours. The diagnosis of this entity must be established by the histological study. Generally, biopsy is accepted as the most accurate method to obtain the diagnosis, although some authors advocate for FNA if physical access to the tumour is available.

Histologically, BCA is characterized by the presence of uniform and regular basaloid cells. These cells have two differenced morphologies and are intermingled. One group consists in small cells with little cytoplasm and intensive basaloid rounded nuclei that are usually located in the periphery of the tumoral nests or islands. The other group is formed by large cells with abundant cytoplasm and pale nuclei that are located in the centre of the tumoral nests. A basal membrane-like structure rounds these tumoral nests, separating them from the surrounding connective tissue [10]. In our case the histopathology showed monotonous cellular growth with cells having round to ovoid hyperchromatic nuclei with pale to eosinophilic to amphophillic cytoplasm and indistinct cell border (basaloid cell) tumor showed trabecular as well as cribroform pattern. There were no mitotic figure and perinueral invasion is not seen. Because of the BCA may have solid and cystic component, the imaging findings have been described as relatively non-specific. Although it can be cystic, was purely solid in our patient. Histopathologically; it has four growth patterns as a solid, trabecular, tubular and membranose type. Our case had trabecular patterns (Figs. 1, 2, 3, 4, 5).

Among the malignant tumours, the adenoid cystic carcinoma is the lesion that shows the most histologic similarities to the BCA, suggesting that the latter is the benign homologue of the adenoid cystic carcinoma. However, characteristics such as integrity of the basal layer, decreased number of mitoses, and slow growth are typical of a benign lesion.

The basal cell adenocarcinoma is another malignant tumour that shares histologic features with the BCA. Both

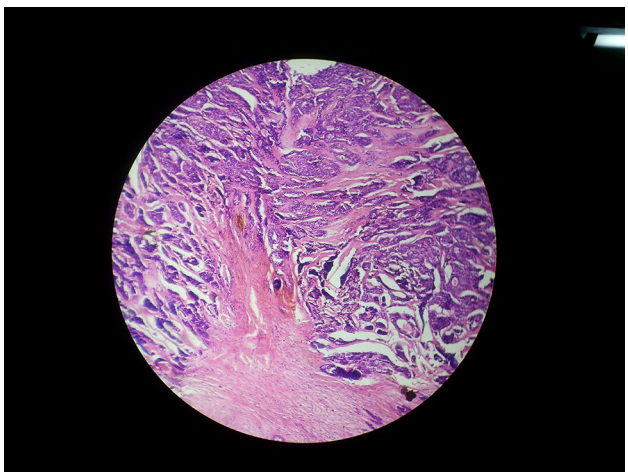

Fig. 1 Histopathology under low power showing trabecular pattern in hematoxilin -eosin stain

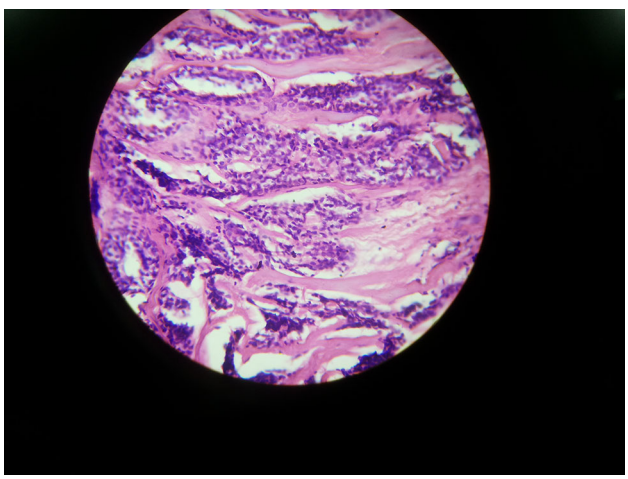

Fig. 2 Histopathology under high power showing basaloid cells in hematoxilin -eosin stain

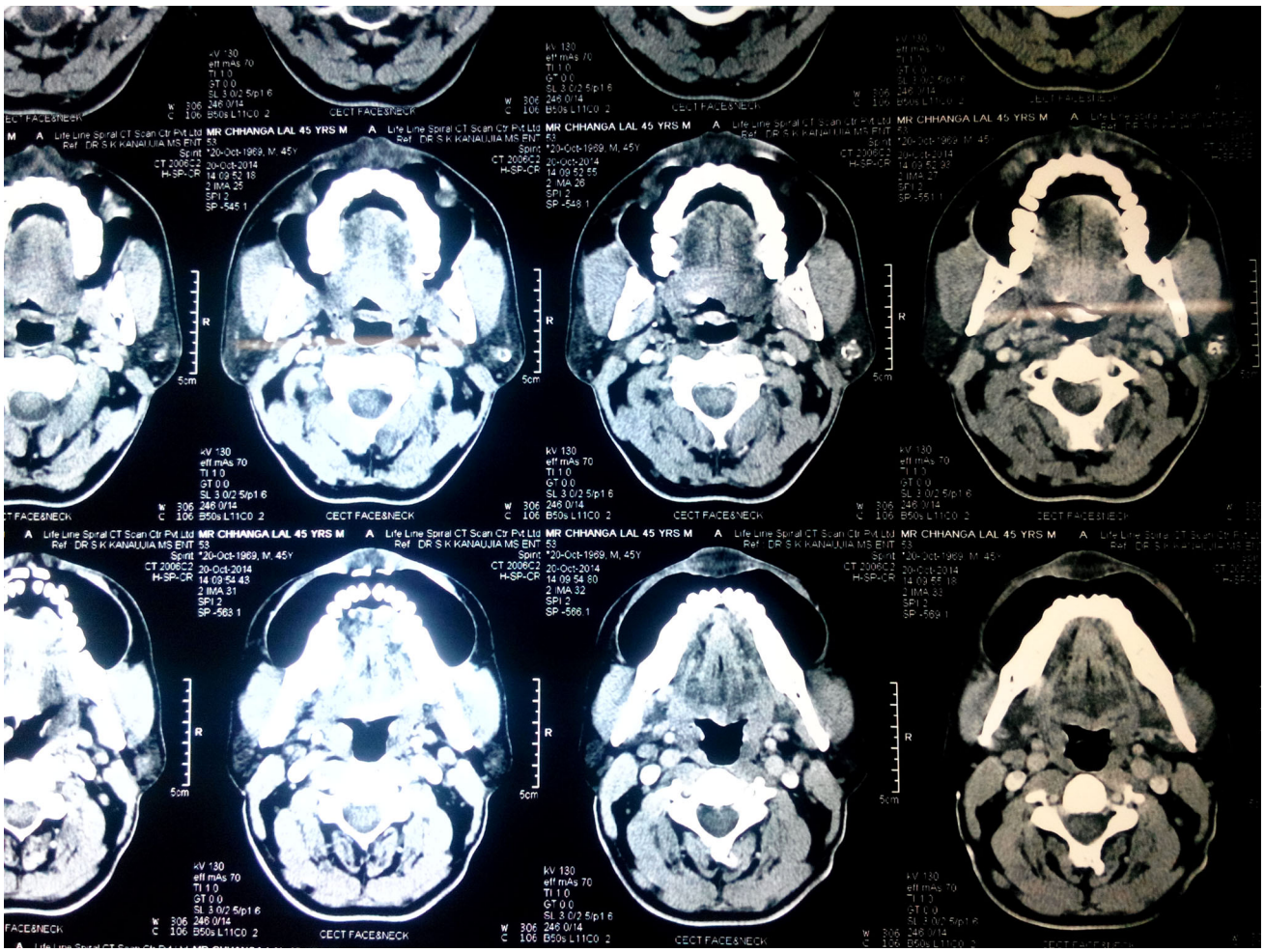

Fig. 3 CECT scan of face showing small soft tissue density space occupying mass lesion with popcorn peripheral calcifications left parotid gland

Fig. 4 Pre operative photograph showing swelling in left parotid region

exhibit myoepithelial differentiation, reactivity patterns indicative of ductal epithelium, and closely similar immunohistochemical profiles. Basal cell adenocarcinoma is distinguished from BCA by the histologic features of invasion, mitotic activity, and neural or vascular involvement [5, 11, 12]. The differential diagnosis must include the pleomorphic adenoma, which is the most common benign tumour of the salivary glands, and other salivary gland tumours such as the canalicular adenoma and sebaceous adenoma. Primary treatment of BCA is surgical excision by means of a superficial or total parotidectomy in cases in which parotid affectation exists. Extracapsular excision is performed in cases in which there is affectation of minor salivary glands in the oral mucosa. The treatment used in this case was the same proposed in the literature.

Conclusion

BCA is an uncommon benign tumour. As the tumour present in fifth and sixth decade of life a high index of suspicion in necessary to differentiate it from malignant tumour arising from same location.

Fig. 5 Post operative photograph after 2 weeks of surgery

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