

Basal Cell Adenoma: A Case Report

Parikshit Sharma¹, Diksha Singh^{2,*}, Janhavi Dixit³, Manish Kumar Singh⁴, Naveen Kumar⁵

¹Senior resident, ²Asst. Prof., ³Senior resident, Oral Pathology FODS, KGMU Lucknow

⁴Asst. Prof., HOD, Social and Preventive Medicine, BRD Medical College, Gorakhpur

⁵PGT, Dr R Ahmed Dental College, Kolkata

Corresponding Author:

Email: diksh18@yahoo.com

Abstract:

Basal cell adenoma (BCA) of minor salivary glands is an uncommon type of monomorphic adenoma. Most frequent location is the parotid gland and usually appears as a firm and mobile slow-growing mass which is histologically characterized as nests of isomorphic cells and interlaced trabeculae with a prominent basal membrane. There is also slack, hyaline stroma with absence of a myxoid or chondroid component. We describe a case of Basal Cell Adenoma of palatal minor salivary glands, a rare site for its occurrence.

Key Words: Basal cell, Salivary Glands, Monomorphic

Introduction:

Basal cell adenoma is a rare benign neoplasm of the salivary glands that derives its name from the basaloid appearance of the tumor cells. It preferentially occurs in the parotid gland and upper lip during the sixth and seventh decades of life. The most common clinical presentation is a slow-growing, asymptomatic, movable, mucosal colored sub-mucosal mass of less than 3.0 cm in diameter, and it is encapsulated and well circumscribed. Histologically, the tumor consists of a proliferation of the terminal duct epithelial cells forming islands and sheets supported by a sparsely fibrous stroma, and the presence of small numbers of myoepithelial cells.

Basal cell adenoma is an uncommon tumor and a case involving the palate is rarely reported.

Case Report:

A 70-year-old woman, reported with a chief complain of swelling on her palate from two months. Intraoral examination reveals a firm movable, painful, sub-mucosal mass of 2.0 cm in the widest diameter and located on the left side on the hard palate. Overlying mucosa was intact and of normal colour and texture. Panoramic and standard occlusal view X-ray showed some signs of bone destruction. However, the lesion caused slight elevation of the floor of the left nasal cavity.



Fig: 1 extra oral profile view



Fig: 2 intra oral presentation of swelling with intact stretched outer mucosa

Extra Oral Profile



Fig3: intraoral x-ray

Intra Oral Presentation



Fig 4: orthopantomogram showing erosion of left tuberosity region

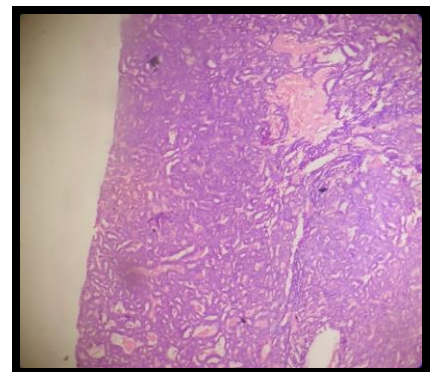
Investigations:

Suspecting it to be a benign tumor with origin from fibrous tissue, muscle tissue, fat tissue and of minor salivary glands tissue (provisional diagnosis of fibroma, lipoma, myoma, lipomyoma, adenoma, and hemangioma), Excisional biopsy was recommended. Routine blood examination was done prior to surgical procedure which includes haemogram with total leucocyte count, differential leucocyte count and blood sugar estimation. The patient was treated under general anaesthesia by complete excision of the lesion, including a small free margin followed by Microscopic examination. The biopsy specimen obtained was about 3.0 X 2.0 X 1.5 centimetres in dimension, brownish-white in colour and slightly firm in consistency.

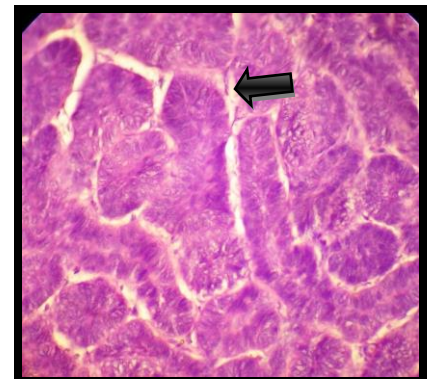
Histopathologic Examination:

It was routinely processed and stained with Haematoxylin and Eosin stain. The sections revealed an overlying ortho-keratinized type of stratified squamous epithelium with an underlying connective tissue. In the deeper layers of the mucosa was a well-

circumscribed encapsulated tumor mass enclosing multiple islands and cords of epithelial cells, supported by a little fibrous stroma. The basaloid cells making up the bulk of the tumor were found to be isomorphic. The peripheral cells were cuboidal-to-columnar in shape and had palisading arrangement while the central cells were relatively rounded. These peripheral cells were hyperchromatic, while the central cells had pale staining nuclei. The sharp demarcation between the neoplastic epithelial cells and the surrounding connective tissue was evident. There is a clear cut reduplication of basement membrane which was PAS positive and gives bright magenta colour. The above-mentioned features were strongly suggestive of basal cell adenoma.



Histopathologic Presentation(10X) showing chords and trabeculae of basaloid cells with scanty stromal component



Histopathologic Presentation(40X) shows proliferation of basaloid cells with palisading and basal lamina duplication.

Prognosis:

The postoperative course was uneventful, and after a follow-up of 13 months, there are no signs of local recurrence.

Discussion:

Parotid gland is the most preferred site for the salivary gland neoplasms. Most of parotid tumours (70-80%) are benign and, within this group,

pleomorphic adenoma is the most frequent. Within the adenomas group, monomorphic tumours are very uncommon. They are defined as epithelial benign tumours of the salivary glands which are not pleomorphic adenomas.¹

The basal cell adenoma was once considered to be a type of "monomorphic adenoma."² However, since 1991, according to the "Salivary Glands Tumours Histological Classification" of the World Health Organization, the name of this lesion was changed to basal cell adenoma, excluding the word "monomorphic".³

Among the "monomorphic adenomas," there are the following varieties:³

1. Warthin's tumor or papillary cystadenoma lymphomatosum,
2. Oncocytoma or oxyphilic adenoma,
3. Basal cell adenoma,
4. Canalicular adenoma, and
5. Sebaceous adenoma.

Histogenetically Monomorphic adenoma can be divided into four groups:

1. Tumors of terminal duct origin (basal cell adenoma and canalicular adenoma),
2. Tumors of terminal or striated duct origin (sebaceous adenoma and sebaceous lymphadenoma),
3. Tumors of striated duct origin (oncocytoma and papillary cystadenoma lymphomatosum), and
4. Tumors of excretory duct origin (sialadenoma papilliferum or inverted ductal papilloma).

The salivary gland tumors are uncommon, representing less than 3% of all neoplasms of the head and neck.⁴ Although it is the most common variant in the group of "monomorphic adenomas," basal cell adenoma represents only 1% of all salivary tumors.⁷ Some authors have reported male predominance and others female predominance. The tumor can occur at any age but is most common in middle aged and older individuals; peak prevalence is in the 6-7 decade of life. In the present case, the patient was in the seventh decade of life.^{5,6} The basal cell adenoma can occur in all salivary tissues but is more frequent in the parotid gland, followed by the minor salivary glands of the upper lip, the development of these tumors in the buccal mucosa, palate, or lower lip is unusual.^{1,7,8} In the current case, the palatal location of the tumor did not fit the more frequent sites, and the literature reviewed showed very rare reports of occurrence in this region.

The origin of the basal cell adenoma is from epithelial tissue, probably in the cells of the terminal duct. Frequently, a mixture of histopathologic subtypes is seen, that is, tubular areas alternating with trabecular and solid areas. Differential diagnosis must

be mostly established with some unfavourable entities, such as the basal cell adenocarcinoma, adenoid cystic carcinoma and basaloid squamous cell carcinoma. In contrast to BCA, an infiltrative growth, more mitotic figures (>4 mitotic count/10 HPF) observed in basal cell carcinoma⁹. In the adenoid cystic carcinoma, whorls of epithelial cells, dark external cells in a stockade pattern and a thick basal membrane-like structure are observed. It is also have perineural invasion. Moreover, vascularization in the microcystic areas is absent, in contrast to BCA, in which multiple endothelial canals are present. Basaloid squamous cell carcinoma is characterized by the presence of solid cells in a lobular fashion, close to the superficial mucosa, in which cells are small and have scarce cytoplasm with hyperchromatic nuclei without nucleoli. These cells constitute small cystic spaces filled by mucinous material. In this latter entity, both populations of basal cells are not observed, in contrast to BCA. Continuity of tumor cells with epithelium of the surface and squamous dysplasia are also observed, in contrast to BCA¹⁰⁻¹². It is interesting that BCA have macroscopic features that may help in the differential diagnosis. Tumor cell nests are clearly differentiated from inter-epithelial stroma because of an intact basal-cell membrane. This delimitation is observed neither in the pleomorphic adenoma nor in the adenoid cystic carcinoma.

Apart from the pleomorphic adenoma, it is important to consider other benign lesions in the differential diagnosis, such as the mucocele, sebaceous cyst, lipoma and nasolabial cyst. Clinical appearance of BCA may simulate a mucocele of the oral mucosa. Generally, the latter usually appears in the lower lip of young people, whereas the former usually appears in the upper lip of the elder¹².

Among the malignant tumors, the adenoid cystic carcinoma" is the lesion that shows the maximum histologic similarities to basal cell adenoma, suggesting that the latter is the benign homologue of the adenoid cystic carcinoma.⁷ However, membranous subtype shows association with skin adnexal tumors (dermal cylindromas and trichoepitheliomas. Batsakis et al have used the term dermal analogue tumors to describe membranous 'monomorphic-adenomas.'

Histologically, the epithelium is typical of the basal cell type adenoma, the only distinguishing feature being the thick hyaline sheaths surrounding the epithelium.

The treatment used in this case was the same proposed in the literature, consisting of complete surgical removal with an extra-capsular limit. Patient had a satisfactory postoperative period, with complete healing of the operated area, and presents no signs of local recurrence 13 months after surgery.

References:

1. Neville BW, Damm DD, Allen CM, et al: Salivary gland pathology. In text book of Oral & Maxillofacial Pathology. Philadelphia, PA, Saunders, 1995, p 347
2. Mintz GA, Abrams AM, Melrose RJ: Monomorphic adenomas of major and minor salivary glands. *Oral Surg Oral Med Oral Path* 53:375, 1982
3. Shafer WG, Hine MK, Levy BM: Salivary glands tumors. In *A Textbook of Oral Pathology*. Philadelphia, PA, Saunders, 1958, pp 168-169
4. Leegaard T, Lindeman H: Salivary gland tumors: Clinical picture and treatment. *Acta Otolaryngol* 263:155, 1970.
5. Eveson JW, Cawson RA: Salivary gland tumours: A review of 2410 cases with particular reference to histological types, site, age and sex distribution. *J Pathol* 146:51-58, 1985
6. Regesi JA, Sciubba JJ: Salivary gland diseases, in *Oral Pathology*. Philadelphia, PA, Saunders, 1993, pp 270-271
7. Batsakis JG: Tumors of the major salivary glands, in *Tumors of the Head and Neck*. Baltimore, MD, Williams & Wilkins, 1974, pp 25-27
8. Chaw MNY, Radden BG: Intra-oral salivary gland neoplasms: A retrospective study of 98 cases. *J Oral Pathol* 15:339, 1986
9. McCluggage G, Sloan J, Cameron S, et al: Basal cell adenocarcinoma of the submandibular gland. *Oral Surg Oral Med Oral Path* 79:342, 1995
10. Williams SB, Ellis GL, Auclair LP: Immunohistochemical analysis of basal cell adenocarcinoma. *Oral Surg Oral Med Oral Path* 75:64, 1993
11. Yu GY, Ubmüller J, Donath K. Membranous basal cell adenoma of the salivary gland: a clinicopathologic study of 12 cases. *Acta Otolaryngol (Stockh)* 1998;118:588-93.
12. Banks ER, Frierson HF, Mills SE, George E, Zarbo RJ, Swanson PE. Basaloid squamous cell carcinoma of the head and neck. *Am J Surg Pathol* 1992;16:939-46.
13. Zabaleta M, Mollá FJ, Salazar F, Erdozain E, Sánchez L. Monomorphic adenoma of basal cells in a minor salivary gland. *Acta Otorrinolaringol Esp* 1997;48:169-72.