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Minor Salivary Gland Origin Tubular Basal Cell Adenoma of the Upper Lip

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Abstract: BCA is a rare benign tumour that arises from the epithelial cells of the salivary glands. Due to its distinct histological features, it was once categorized as a monomorphic adenoma subtype. typically affecting older female patients' primary salivary glands. BCA manifests as slowly growing, asymptomatic masses that are biased toward age and location. Histologically, solid, trabecular, tubular, and membrane-like patterns can be distinguished. Before beginning treatment, it is essential to distinguish between BCA, pleomorphic adenoma, and malignant salivary gland tumors in order to provide effective care. The standard of care is to surgically remove the tumour. Except for the membrane subtype, malignant transformation and recurrence are rare. This research aims to report an unusual case of BCA that originated from a small salivary gland located in the upper lip. Since most cases of basal cell adenomas occur in the parotid glands, they make about 1% of all salivary gland cancers.

Categories: *Dentistry, Oral and Maxillofacial Pathology.*

Keywords: *Benign Oral Mass, Minor Salivary Gland, Upper Lip, Basal Cell Adenoma, Salivary Gland Tumour.*

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I. INTRODUCTION

Basal cell adenoma (BCA), a benign salivary gland tumour, typically develops in the parotid gland. The tumour cells, basaloid shape, and lack of the myxochondroid stromal component are characteristics that help identify it. [1]. Basal cell adenomas are uncommon; they account for 2.4% of all benign salivary gland tumors and 1.5% of all epithelial tumors.[2.] Usually found in older adults, the tumour typically develops between the ages of 50 and 70. [3, 4.] Although BCA mostly affects females, the membrane pattern has an even distribution between males and females (2:1). [3, 5.] Four distinct histological patterns have been identified in BCA: solid, trabecular, tubular, and membranous.

While they are very rare in minor salivary glands, they are more frequently observed in major salivary glands (75% parotid and 5% submandibular glands). The presence of tiny salivary glands mostly affects the palate, buccal mucosa, lower lip, and upper lip [1,5–6]. To improve the overall prognosis and ensure appropriate therapy, it is essential to distinguish BCA from other benign and malignant salivary neoplasms, including pleomorphic adenoma, adenoid cystic carcinoma, and basal cell adenocarcinoma (BCAC), [4,7].

For BCA, conservative excision is the recommended course of treatment due to its low recurrence rate. Except for the membranous kind, BCA rarely exhibits symptoms of malignant transformation, which has a 4% chance. [2.] Lasers are thought to be a typical treatment. Surgeons can utilize these highly effective scalpels to remove craniofacial malignancies while preserving the surrounding craniofacial tissues as much as possible [8, 9]. Compared to other salivary gland tumors, BCA has a favourable prognosis, largely due to its low recurrence rate [7].

In this article, we were able to describe a case of tubular-patterned basal cell adenoma from the upper labial salivary

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gland that was identified and verified by histological analysis at Bapuji Dental College and Hospital.

II. CASE PRESENTATION

A female patient, age 58, came to our outpatient department to have a soft tissue lump on the inside of her upper lip evaluated. One month ago, the patient spotted a pea-sized tumour, which has since grown to its current size. Neither a history of trauma nor any indication of factitial lip biting were evident. Family history and medical conditions did not play a role. No nodal enlargement was found during the non-contributory physical examination.

On the right side of the inner aspect of the top lip, a single swelling of about 1 x 1 cm, oval in shape, lobulated blueish in color, and with distinct edges was seen during intraoral inspection of the upper labial mucosa. The mass was covered with mucosa that was the same color as the surrounding mucosa, smooth-surfaced, and non-ulcerated. According to palpatory results, the mass was hard, nontender, and blanched when pressure was applied. There was no sensory impairment in the area of the lips (Figure 1).

Fig 1 An Upper Lip Clinical Image

The image is showing a solitary, ovoid soft tissue mass on the right side of the upper lip.

The lesion was diagnosed as a benign lesion of the upper labial mucosa based on the patient's medical history and the clinical appearance of a confined, slowly developing, smooth-surfaced, well-defined, asymptomatic, freely moveable lump inside the top lip. The list of differential diagnoses included entities of minor salivary gland origin (benign and malignant minor salivary gland tumors, mucocele, salivary duct cysts), infectious origin (odontogenic/non-odontogenic), mesenchymal adipose tissue tumors (lipoma), vascular entities (haemangioma and lymphangioma), smooth muscle lesions (leiomyoma), or neural derivatives (traumatic neuroma, schwannoma, and neurofibroma).

A well-defined, heterogeneously hypoechoic lesion measuring 11 x 8 mm and minor internal vascularity were detected by ultrasound (USG) on the gingival surface of the upper lip. A particular Doppler analysis showed artery and venous waveforms, which may indicate that the lesion is benign (Figure 2).

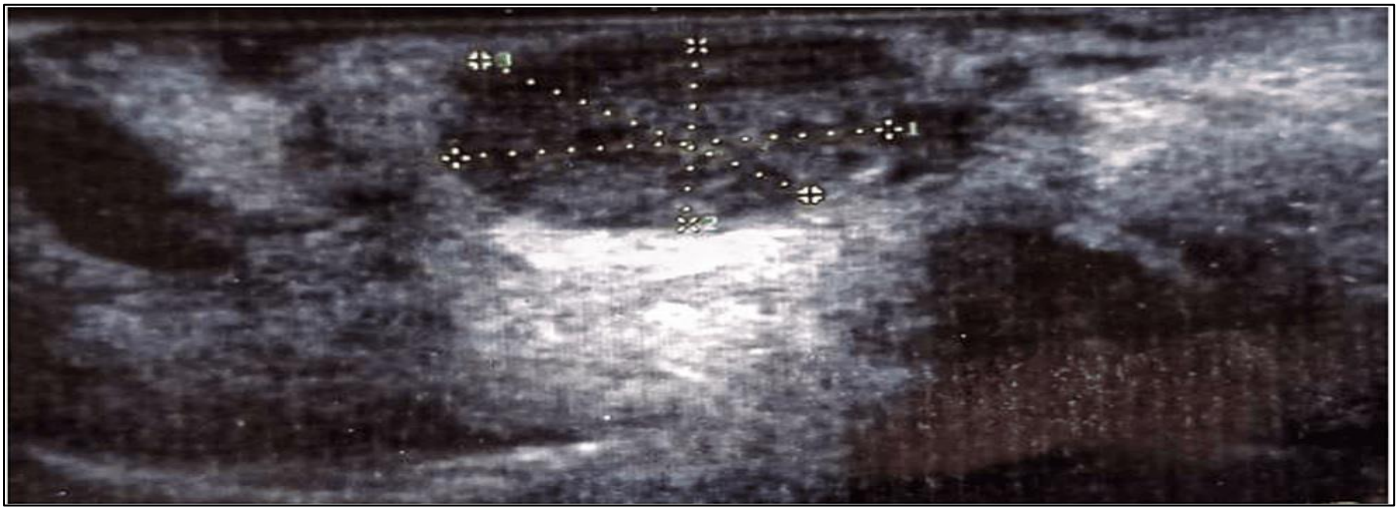

Fig 2 Ultrasonography Image

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The image is showing a well-defined hypoechoic lesion in the upper lip.

Complete blood count, bleeding time, and clotting time were all within acceptable limits according to haematological tests. The patient was informed of the course of treatment. With the patient's written informed consent, the entire tumour was surgically removed using a blunt, horizontal incision of the mucosa using no. 15 blades, with broad margins and extreme caution to avoid damaging any essential structures, all while under local anaesthesia. A cream-colored, smooth-surfaced, oval-shaped lump that measured approximately 1.5 x 1 x 0.5 cm and had a firm consistency was sent for histopathologic analysis.

Fig 3 Gross Excised Lesion Specimen

The histopathological examination of submitted hematoxylin and eosin (H & E) stained sections showed the presence of surface epithelium and submucosa consists of glandular epithelium. The surface epithelium shows stratified squamous type with no rete pegs. The submucosa shows dense proliferation of glandular epithelium of benign type. The tumour cells grew in papillary or glandular tubular form; fibrous vascular axis can be seen in the centre of papillary. The cells are mucinous tall columnar to cuboidal in shape, arranged in monolayer or pseudostratified, the nucleolus is located at the base. Intracellular mucinous secretions area is evident. The above histopathological features are suggestive of Basal cell adenoma tubular pattern of minor salivary gland in relation to upper labial mucosa was given.

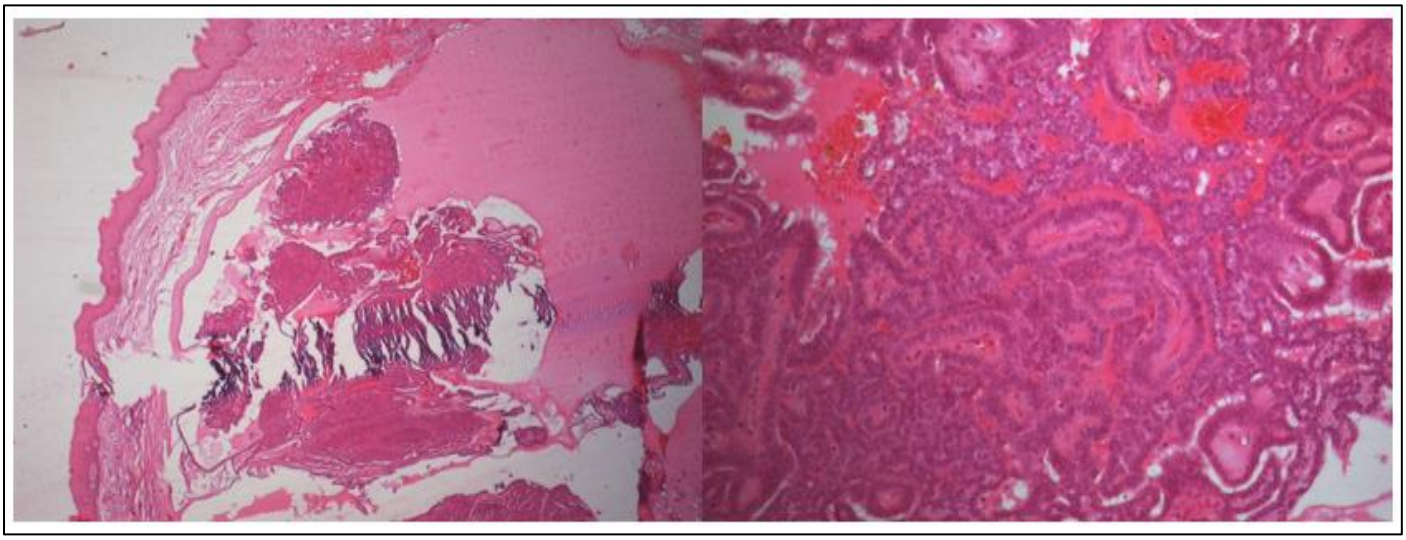

Fig 4 Histopathology Image (H&E stain, 10X and 40X).

III. DISCUSSION

Of all head and neck tumors, salivary gland tumors make up less than 3%.[10]. The parotid gland accounted for the bulk of salivary gland tumors.[15,12] The prevalence of benign over malignant tumors is indicated by these neoplasms.[13] Pleomorphic adenoma is the most prevalent minor salivary gland tumour, according to the majority of studies.[13] Its frequency ranges from 33% to 70% of all non-cancerous tumors and from 70.6% to 100% of benign tumors.[14,11.10.] The majority of occurrences of basal cell adenoma, a rare benign salivary gland tumour, occur in the parotid gland of older adults.[16] The purpose of this paper is to describe a case of basal cell adenoma that developed from the upper lip minor salivary gland.

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Minor tumors of the salivary glands are a diverse category of neoplasms with a wide range of histomorphologic variations when viewed under a microscope.[17] In relation to basal cell adenomas, they might manifest as cords of neoplastic epithelial cells and solid trabecular formations, with a palisading peripheral layer of cells. Although the stroma is very vascular, it lacks the myxoid characteristics of pleomorphic adenoma. According to this article, tubular variation basal cell adenoma is characterized by uniformly shaped, tiny cells.

These were arranged in large compact aggregates in which the outer layer is palisaded. In addition, intercellular deposits and bisquamous whorls in the globular ends of epithelial islands were found. It is important to stress that challenges to microscopic diagnosis include biphasic differentiation of salivary gland tumors even to the point of hybrid tumors with features of two different, well-defined tumour entities. These were placed in palisaded outer layers in sizable, compact aggregates. Furthermore, bisquamous whorls and intercellular deposits were discovered in the globular ends of epithelial islands. The biphasic differentiation of salivary gland tumors, even to the extent of hybrid tumors with characteristics of two distinct, well-defined tumour entities, is a challenge to microscopic identification, it should be emphasized[17].

It may be challenging to diagnose small salivary gland cancers accurately because there aren't many immunohistochemistry markers available for tumour differentiation. We chose to employ immunohistochemistry to aid in the histological diagnosis. Strong positive results for cytokeratin, an immunomarker for epithelial cells, and calponin antibody, a marker of myoepithelial cells, have been shown by these data. This highlights its glandular and epithelial origin.

According to the majority of research, females are more likely than males to have small salivary gland tumors, with a female to male ratio ranging from 1:1.02 to 1:2.0.2. Furthermore, significant research has shown that between 40 and 80 percent of all tumors originate in the palate, making it the most common location for small salivary gland tumors. The patient in this instance was female and the basal cell adenoma involved the upper lip.

The findings of this study collectively provide belief to the idea that accurate detection of upper lip lesions is critical, especially since basal cell adenoma can develop into malignant conditions like basal cell adenocarcinoma.

IV. RECOMMENDATIONS

The unique clinical and histological characteristics of basal cell adenoma aid in its identification and direct the physician toward the best course of treatment. BCA should be included in the differential diagnosis of upper lip masses even if it is uncommon. Because basal cell adenoma can develop into malignant transformation, it is crucial to diagnose upper lip lesions as soon as possible.

V. CONCLUSIONS

Basal cell adenomas accounts less than 3% of all salivary gland tumors. The histopathology reflects a better aspect for treatment modality. Complete surgical resection has a low recurrence rate and a favourable prognosis.

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