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Original Article

Pleomorphic Adenoma Of Hard Palate: A Case Report

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ABSTRACT

Introduction: Pleomorphic adenoma of minor salivary glands of the hard palate is a rare benign tumor that has elements of both epithelial and mesenchymal tissues. It usually presents as slow-growing painless submucosal mass on the hard palate. Diagnosis rests on clinical features and tissue examination with radiological investigations helping in surgical planning.

Aim and objective: To add to the literature few more cases of this relatively rare condition and discuss its clinical presentation and management.

Case description: Here, we present a case of a female patient of age 45 years old came with a chief complaint of oral cavity swelling (size measuring 6X6 cm; Hard palate) since 1 year. Based on clinical and radiological examinations, an excisional biopsy was planned under local anesthesia. The operation was performed with a minimally invasive approach. Cytomorphological finding shows few basaloid cell clusters which are rarely found in pleomorphic adenoma. To confirm a diagnosis, histological examination was done. Histopathological examination identified a diagnosis of PA, consistent with clinical and radiological evaluation.

Conclusion: Pleomorphic adenoma of the minor salivary gland is a relatively rare pathology. The complete excision of the tumor is a definitive treatment protocol for this case. Recurrence rate is low.

Keywords: Hard palate, Pleomorphic adenoma, Basaloid cell, Salivary gland.

INTRODUCTION

Salivary gland tumors account for approximately 3% of all neoplasms. Pleomorphic adenoma (PA) is the most common tumor identified in the major salivary glands, primarily occurring in the parotid gland, with less frequent involvement of the accessory salivary glands. While the palate is the predominant site for minor salivary glands affected, other locations include the upper lip, buccal mucosa, tongue, and gingiva within the oral cavity.[1] Typically, it presents as a solitary, painless mass on the oral mucosa. The term "pleomorphic" pertains to the embryonic development of this benign neoplasm of the salivary ductal epithelium, which encompasses both epithelial and mesenchymal tissues derived from intercalating cells that are myoepithelial in nature.[2,3] This pathological condition exhibits a female predominance and is more frequently observed in the elderly population. The typical age range for presentation is during the fifth and sixth decades of life.

Diagnosis of palatal PA relies on a thorough history, clinical examination, exfoliative cytology, and histological analysis. Furthermore, additional imaging studies, such as computed tomography and magnetic resonance imaging, offer insights into the tumor's location, size, and extent of spread to adjacent structures, depth, and surrounding tissues. For the diagnosis of pleomorphic adenoma, an incisional biopsy is essential, as the differential diagnosis of palatal lesions includes other minor salivary gland tumors, such as squamous cell carcinoma, as well as other benign and malignant mesenchymal tumors like neurofibroma.

A high recurrence rate, reaching up to 60% of cases, along with a propensity for malignant transformation, has been documented for pleomorphic adenoma, raising significant concerns for the surgeon responsible for treatment. Due to the elevated recurrence rate, simple enucleation is highly discouraged. There exists a 6% probability that a pleomorphic adenoma may progress to cancer. If left untreated surgically, these adenomas can degenerate

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into carcinomas. Once they become carcinomatous, they are referred to as carcinoma ex pleomorphic adenoma (CXPA). The primary treatment approach should be wide local excision with secure resection margins. In instances where the periosteum and surrounding bone are affected, complete removal is also necessary.[4]

CASE PRESENTATION

A 45-year-old female patient presented to the ENT Department with a complaint of a painless swelling in the hard palate region that had persisted for one year. The swelling was non-tender, gradually increasing in size from an initial pea-sized dimension to its current state. It did not affect her speech, mastication, or swallowing abilities. There was no reported history of trauma or fever. Her medical and family histories were unremarkable.

On general physical examination, the patient appeared well-nourished and oriented, exhibiting a normal gait. Her vital signs were within normal ranges. During the extraoral examination, no abnormalities were found, and no lymph nodes were palpable. The intraoral examination revealed a solitary, well-defined, sessile swelling measuring approximately 6×6 cm, extending 5 mm from the marginal gingiva of the left maxillary second molar to the mid-palatal region. The overlying mucosa appeared normal in color but was ulcerated.

On palpation, the swelling was firm, non-tender, non-pulsatile, and seemed fixed to the underlying bone, with no regional lymphadenopathy present. Based on the history and clinical findings, a provisional diagnosis of a benign salivary gland tumor was made. Differential diagnoses included palatal abscess, odontogenic cyst, Kaposi's sarcoma, and syphilitic gumma. A CT scan revealed a lobulated, dense soft tissue lesion measuring 5×6 cm in the right side of the hard palate, adjacent to the tongue, causing bony remodeling changes.

A cytomorphological examination reveals isolated and a few clusters of small basaloid cells characterized by uniform round to oval nuclei and minimal cytoplasm, situated within a myxoid matrix against a backdrop of hemorrhage. No atypical or malignant cells were observed in the examined smears. This finding is indicative of a benign neoplasm of the salivary gland, possibly of basaloid origin. Differential diagnoses for basaloid cells in salivary tumors include pleomorphic adenoma, adenoid cystic carcinoma, and basal cell neoplasms.

An incisional biopsy was conducted under local anesthesia. The histopathological analysis displayed a tumor mass consisting of both epithelial and mesenchymal components, featuring highly cellular connective tissue stromal cells. Notable areas of spindle cell proliferation resembling myoepithelial cells were present, along with myxomatous and chondroid regions observed.

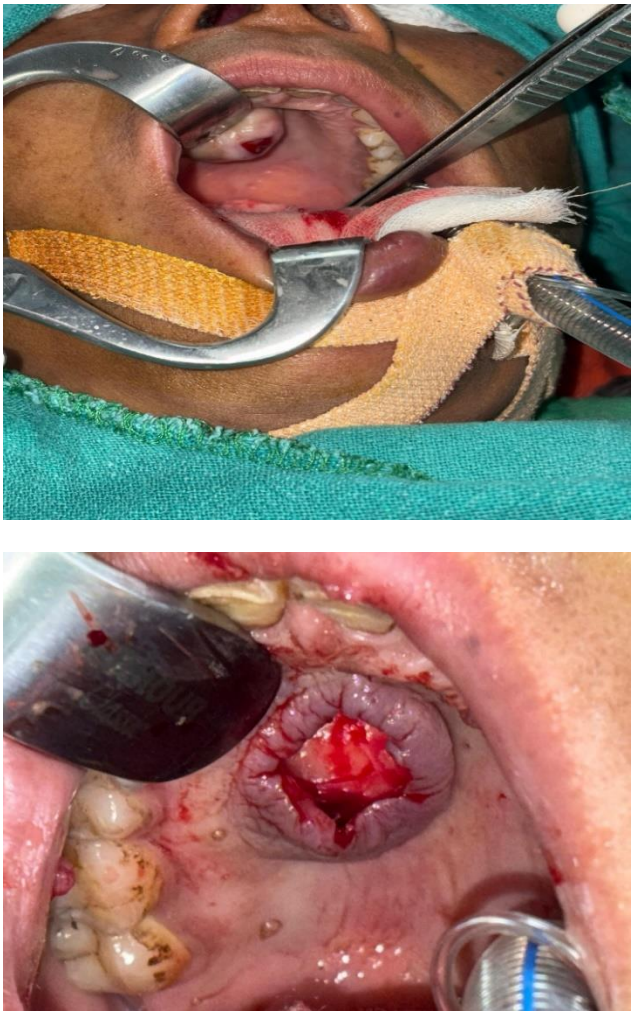
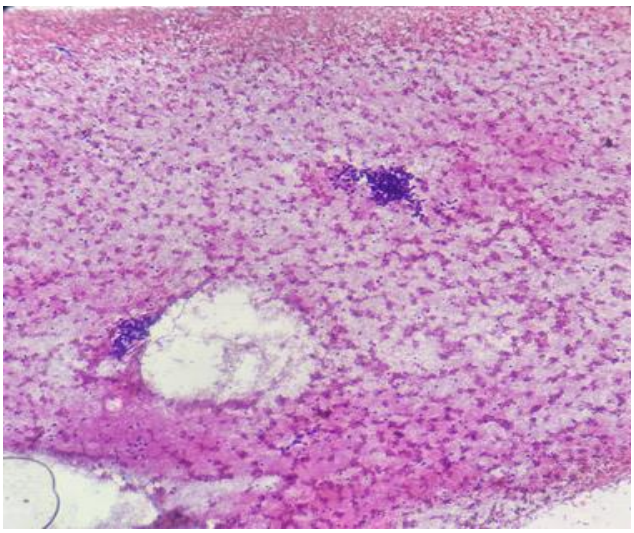


Fig. 1 & 2.A solitary, well demarcated, slightly mobile growth seen at hard palate



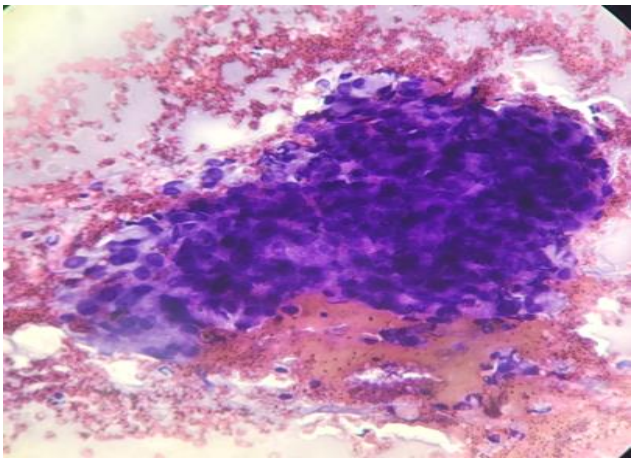


Fig 3 & 4. (10X & 40X): Giemsa stained smears are cellular & show singly scattered & few groups of small basaloid cells with uniform round to oval nuclei & scant cytoplasm embedded in myxoid matrix against a hemorrhagic background. Suggestive of Benign neoplasm of S.G (? Basaloid)

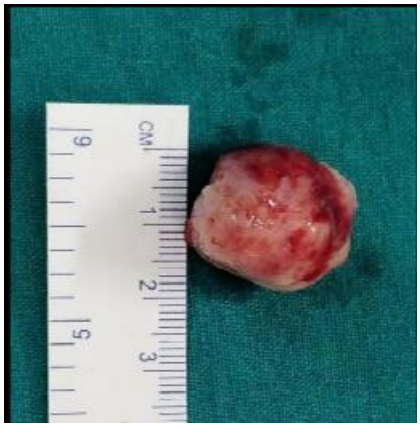
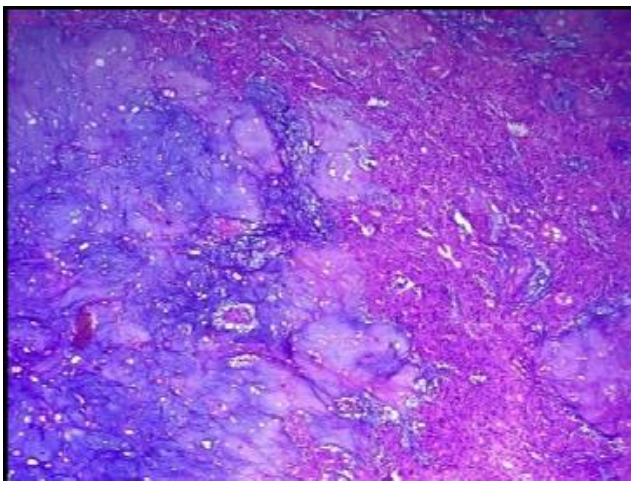


Fig 5: Single large nodule, blue-gray appearance of chondroid matrix



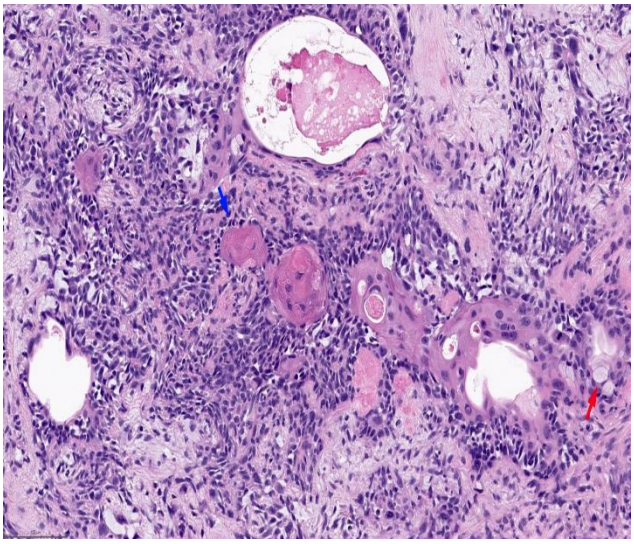


Fig 6 & 7: Histomorphological findings show Triphasic tumor; Squamous metaplasia with keratinization (blue arrow); Mucinous metaplasia with mucocytes

DISCUSSION

Pleomorphic adenoma is a complex epithelial tumor characterized by its morphological diversity, embedded within a mucopolysaccharide stroma, and comprising both epithelial and myoepithelial components arranged in various configurations. The formation of a "false capsule" is attributed to the compression of the surrounding salivary parenchyma, which leads to fibrosis.

The occurrence of pleomorphic adenoma in the minor salivary gland of the hard palate is quite rare, representing 5-7% of all salivary gland tumor cases. In pathology laboratories, small salivary gland tumors are estimated to constitute 0.35-1.5% of total biopsies. The most common sites for these tumors include the palate, lip, nasal cavity, pharynx, larynx, and trachea.

Typically, these tumors present as slow-growing, painless, well-defined, and nodular exophytic growths. Depending on their location, minor salivary gland tumors may lead to various symptoms, including dysphagia, hoarseness, dyspnea, difficulties in chewing, and epistaxis.

Diagnosing these tumors can be challenging. Techniques such as fine needle aspiration cytology, MRI, immunohistochemistry, and special stains are employed for accurate diagnosis. Surgical intervention remains the primary treatment modality and boasts a high cure rate. Cases with high-grade disease, uncertain resection margins, lymph node involvement, and peri-neural invasion may require postoperative radiation therapy. Furthermore, patients might be offered a combination of radiation and chemotherapy. However, there is limited research regarding the effectiveness of chemotherapy in treating CXPA. Radiotherapy (RT) may be beneficial for patients with positive margins, inoperable tumors, and multifocal recurrences after previous resections to achieve local control. The local control rates with RT for microscopic and gross residual tumors are approximately 80% to 85% and 40% to 60%, respectively. Further research is warranted in the treatment factors associated with pleomorphic adenoma of both major and minor salivary glands.[5]

CONCLUSION

Pleomorphic adenomas of the palate represent the most prevalent tumor found in minor salivary glands. Diagnosing and treating this condition poses significant challenges. A thorough history, histopathological examination, patient assessment, and radiological imaging are essential due to its clinical variability. Timely diagnosis coupled with extensive local surgical excision leads to the complete eradication of the pathology without recurrence. When surgical excision is performed adequately, the tumor typically does not return; however, many recurrences may arise from insufficient surgical techniques. Long-term follow-up is crucial due to the potential for recurrence even many years after the initial excision.[6]

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