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Case Report

Atypical intraoral swelling: A case report of pleomorphic adenoma of the palate

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Abstract

Pleomorphic adenoma is the most frequently occurring benign tumor of the salivary glands, composed of both epithelial and mesenchymal tissue elements. In 1972, the World Health Organization (WHO) described it as a well-circumscribed neoplasm exhibiting a diverse or mixed histological appearance. Histologically, the tumor features a combination of identifiable epithelial structures along with mucoid, myxoid, and chondroid stromal components. It predominantly affects the parotid and submandibular glands but can also arise from the minor salivary glands", often presenting as a painless intraoral mass, typically on the palate or lip. Although it is benign, pleomorphic adenoma carries a risk of malignant transformation estimated at around 9% and is known for its high recurrence potential. This case report highlights the clinical features, imaging findings, and histopathological characteristics of pleomorphic adenoma.

Keywords: Complete Denture, Remedies, Troublesome dentures

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1. Introduction

The term pleomorphic adenoma was originally introduced by Johann Friedrich Kraus.[1-2] It represents the most frequently diagnosed tumor of the salivary glands, with the parotid gland being the most commonly affected site.[1-2] While it can develop in the minor salivary glands within the oral cavity, its occurrence in the sublingual gland is notably uncommon.[1-2] The tumor often arises in the lower pole of the superficial lobe of the parotid gland, though about 10% originate in its deeper regions.[1-2] Around 8% of pleomorphic adenomas are found in the minor salivary glands, with the palate accounting for approximately 60–65% of these cases.[1-3] The condition is more prevalent in females than males, with a gender ratio of roughly 6:4, and typically presents in individuals between the fourth and sixth decades of life. Although more frequently diagnosed in adults, it can also occur in younger individuals.[1-3]

2. A Case Report

A 23-year- old male patient who came to our department with chief complaints of swelling and interdental food retention in upper left back region of jaw since 4-5 months. Patient was apparently alright 4-5 months ago. Then he noticed single, small, dome shaped swelling in upper left back region of jaw. Initially swelling was small and gradually progressed to current size. The swelling was painless, localized and increased in size within the time duration of 4-5 months. No relevant past medical and dental history was reported by the patient, there was no preceding history of trauma. Now he reported to the hospital with present complaint of persistent swelling. On Extra oral examination – (**Figure 1**, a, b, c) Left eye – Shows corneal opacity with depressed globe of eye with inability to complete eye opening and no vision. And on Intra oral examination given in (**Figure 2** a, b).

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Figure 1: Extraoral phototgraphs

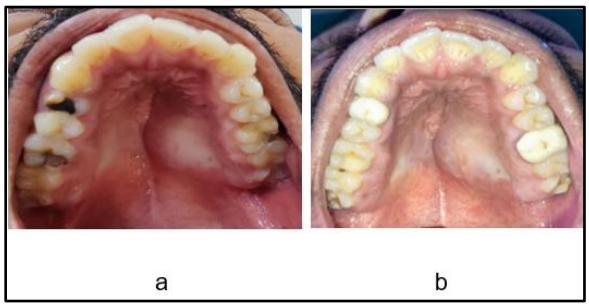

Figure 2: Intraoral phototgraphs

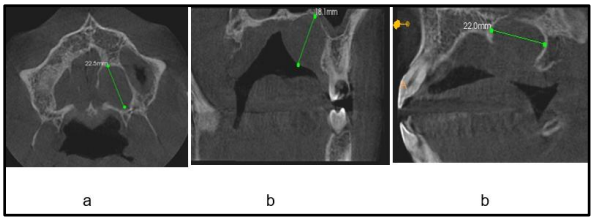

Figure 3: CBCT Photographs

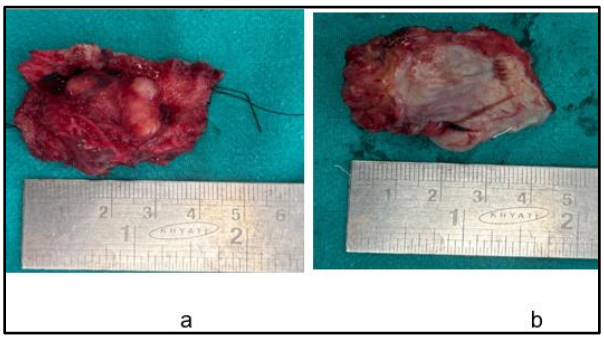

Figure 4: Excised specimen

Figure 5: Post OP Phototgraphs

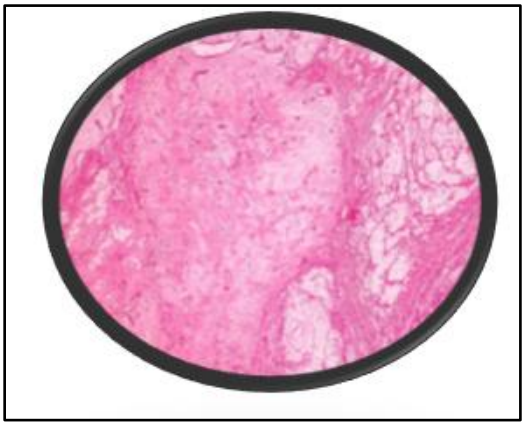

Figure 6: Histopathology slide

2.1. Soft tissue examination shows the following findings.

On Inspection- A well-defined swelling of approx. 4 cm x 3 cm present on the left side of maxillary palatal region of teeth 24 25 26 27 28. Antero-posterioly, swelling extends from distal surface of 24 to posterior region of hard palate. Medio-laterallly, swelling extends from midpalate region to attached mucosa of palate opposite to 24 25 26 27 28. Surface of the swelling shows stretched mucosa slightly blanched, white in colour compared to the adjacent normal mucosa. No ulceration or sinus tract present over the surface of the swelling. On palpation the swelling was non tender, afebrile, immovable and soft to firm in consistency.

2.3. On hard tissue examination: shows the following findings.

All Teeth were present with deep disto-occlusal caries present w.r.t 16, 26 and amalgam restoration w.r.t 14. Tenderness over percussion present w.r.t 26. So, we gave provisional diagnosis as palatal abscess. Since intraoral swelling was large, patient sent for radiographic investigation include Cone Beam Computed Tomography (CBCT) of maxilla – (**Figure 3** a,b,c)

CBCT of this patient shows following findings –

Location - A well-defined radiolucency of approx. 22.5x18.1x22 mm seen on the left body of maxilla at the periapical region of 24,25,26,27,28. Antero-posteriorly the radiolucency is extending from mesial surface of 25 to distal root of 28 on palatal aspects only. Supero-inferiorly the radiolucency is extending from the palatal bone to inferiorly 18.1 mm of size showing soft tissue bulge. Medio-laterally the radiolucency showed the expansion of palatal bone adjacent to 24,25,26,27,28. The periphery of the lesion is thin, corticated. The internal structure of the lesion is unilocular radiolucency. Effect on the surrounding structures shows thinning, expansion and superiorly elevated palatal bone but with no obvious bony destruction present with 24,25,26,27,28 region. There was no effect of lesion on adjacent teeth.

2.4. After analyzing cbct findings we gave radiographic diagnosis as – Salivary gland lesion.

And Differential diagnosis were given as – Pleomorphic adenoma and low grade mucoepidermoid carcinoma. Since the patient had multiple carious teeth. He sent to another department to replace amalgam restoration with glass ionomer cement w.r.t 14, 16, root canal treatment and PFM crown w.r.t 26 (**Figure 2**) and for persistent swelling patient was sent for excisional biopsy. Patient got operated and tumor mass was sent for histopathological investigations.(**Figure 4** a, b)

*2.5. Histopathological investigation shows following findings- (**Figure 6**)*

HE stained section shows lesional tissue of glandular origin partially encapsulated by loosely arranged capsule and tumor cells consists of epithelial and myoepithelial cells in the form of sheets, strands and cords infiltrating in capsule. Myxoid, myxochondroid and osseous areas are seen. Squamous differentiation with keratin formation and lipomatous metaplasia evident focally. Duct-like structures are lined by epithelial cells internally and myoepithelial cells externally. Few round plump eosinophilic cells with granular cytoplasm suggestive of oncocytes are seen. Myoepithelial cells shows varying morphology from angular, spindle to round cells with eccentric nuclei and hyalinized cytoplasm giving plasmacytoid appearance. Overall features suggestive of "Pleomorphic adenoma".

2.6. After all investigation we gave final Diagnosis- "Pleomorphic adenoma" of palate

3. Discussion

Pleomorphic adenomas predominantly affect individuals between the fourth and sixth decades of life, with a higher incidence in females.[5-6] The occurrence in a 23-year-old male is atypical. While rare, similar instances have been documented, such as a case involving a young male snake charmer with a hard palate Pleomorphic Adenoma. [5-7] Additionally, a review of literature reveals that only about 5% to 10% of pleomorphic adenomas of the minor salivary glands occur in patients aged 20 years or younger.[5-7]

The patient's initial complaints of interdental food retention and tenderness in the upper left posterior region, along with multiple carious teeth, led to a provisional diagnosis of a palatal abscess. This presentation is misleading, as PAs typically manifest as painless, slow-growing masses. Such atypical presentations can delay accurate diagnosis and appropriate management.[8-9]

Histological examination revealed not only the characteristic epithelial and myoepithelial components but also rare features such as osseous metaplasia, squamous differentiation with keratin formation, and lipomatous metaplasia.[10-11] These findings are uncommon in PAs and can complicate the diagnostic process. Similar cases with extensive squamous metaplasia have been reported, emphasizing the diagnostic challenges posed by such histological diversity.[10-11] The use of Cone Beam Computed Tomography (CBCT) provided detailed insights into the lesion's size, extent, and its effect on surrounding structures, aiding in accurate diagnosis and surgical planning. While CBCT is commonly employed in dental assessments, its application in evaluating minor salivary gland tumors is less frequently reported, highlighting the innovative approach in this case.[10-11]

Patient is currently under follow up. Given 4 months follow up photo in **Figure 5**.

4. Conclusion

Pleomorphic adenoma remains the most common benign neoplasm of the salivary glands, characterized by its mixed epithelial and mesenchymal tissue composition.[12-13] Its diverse histological presentation, often involving mucoid, myxoid, and chondroid elements, reflects its complex morphology.[12-13] While it most commonly arises in the parotid and submandibular glands, occurrences in the minor salivary glands—particularly on the palate—are also notable.[12-13] Despite its benign nature, the tumor poses a risk of recurrence and potential malignant transformation. Timely diagnosis, supported by clinical evaluation, imaging, and histopathology, is essential for effective management and to minimize long-term complications.[12-13]

5. Source of Funding

None.

6. Conflict of Interest

None.

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