

A Case Report on Pleomorphic Adenoma of Hard Palate

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Citation: Joseph Nisha, Raghavendra Kini, Roopashri R Kashyap, Gowri P Bhandarkar, Ujwala Shetty et al. (2024) A Case Report on Pleomorphic Adenoma of Hard Palate, J Dent Oral Care Med 11(2): 202

Received Date: May 25, 2024 **Accepted Date:** June 25, 2024 **Published Date:** June 29, 2024

Abstract

Pleomorphic adenoma, a commonly encountered salivary gland tumor, presents a diagnostic challenge due to its varied clinical and histopathological features. It is also known as “mixed tumor, which describes its pleomorphic appearance as opposed to its dual origin from epithelial and myoepithelial elements. This case report presents a notable instance of pleomorphic adenoma originating from the palate in a young female. The patient's history, clinical examination, and histopathological findings, including diverse morphological patterns with epithelial and myoepithelial components, are detailed.

Keywords: Salivary glands; Pleomorphic Adenoma; Parotid Gland; Palate

Introduction

Approximately 3% of head and neck tumors are salivary gland tumors [1]. Among all salivary gland tumors, pleomorphic adenoma is the most common salivary gland neoplasm [2]. The term “pleomorphic adenoma” is derived due to morphological complexity of the tumor between individuals and glands [3]. It accounts for about 60% of all major and minor salivary gland tumors¹. The minor salivary glands are involved in around 8% of pleomorphic adenomas, with the palate being the most often affected region (60–65%) [4]. It can appear at any age but most commonly between the fifth and seventh decade of life [5].

It usually presents as a solitary slow-growing, painless mass⁶. Histological presentation of Pleomorphic adenoma shows a varying arrangement of epithelium within a loosely woven fibrous matrix of myxoid, chondroid, or mucoid type [3]. The optimum treatment involves a wide local excision with good safety margins and follow-up for at least 3-4 years [7].

Case Report

A 25-year-old female patient reported with chief complaint of swelling in upper left back tooth region since 1 week which was initially small in size and gradually progressed. The patient had a past history of similar swelling during her pregnancy 4 years back and got resolved on its own. On extraoral examination no abnormalities were detected [figure 2]. Intraorally a dome shaped solitary swelling noted on the left side of hard palate of size (3×3) cm which is well-democrated and smooth surfaced [figure 2]. The overlying and surrounding mucosa appeared normal. On palpation inspeactory findings were confirmed ,non-tender on palpation ,soft to firm in consistency,non compressible and fixed to the underlying bone . On hard tissue examination dental caries 17, 27, 46, 47 noted, missing 45. Based on the clinical observations, a provisional diagnosis of a minor salivary gland tumor of hard palate was given. Necrotizing sialometaplasia was considered under differential diagnosis. An occlusal radiograph were taken which revealed a well defined radiolucent lesion on the palate without crossing the midline.

Surgical excision was done and was sent to histopathological examination which revealed encapsulated tumor exhibiting chondromyxoid stroma with multiple cystic spaces and minor salivary gland acini with fibro collagenous stroma. The final diagnosis of a pleomorphic adenoma of hard palate was made. The patient was followed up after one month, during which no complications were noted. The patient is currently under regular follow-up every six months.



Figure 1: Shows extra oral profile with no facial abnormalities



Figure 2: Shows dome shaped swelling on left side of hard palate

Discussion

Pleomorphic adenoma is a benign tumor consisting of cells with the ability to differentiate into various types of epithelial cells (both ductal and non-ductal) as well as mesenchymal cells, encompassing chondroid, myxoid, and osseous cells [4]. It is also known as mixed tumor, iceberg tumor, endothelioma, branchioma and enchondroma [8]. The exact cause remains uncertain, although it has been associated with factors such as radiation, smoking, physical injury, viral infections, and genetics [9].

The parotid gland is the most common site of the pleomorphic adenoma [4]. Within the parotid gland, this tumor commonly manifests in the lower pole of the superficial lobe, while approximately 10% of tumors originate in the deeper regions of the gland [4]. Around 8 % of pleomorphic adenomas affect the minor salivary glands, with the palate being the commonest site (constituting 60–65% of cases) [4]. There is slight female predominance with a male to female ratio 1:1:17 to 1:2:48. In this case, the patient was female, and the lesion was observed on the palate. Typically, it manifests as a small, painless, nodule that gradually starts to enlarge [4]. Because of the firm attachment of the mucosa to the hard palate, it appears to be fixed in place, whereas in the lips and buccal mucosa, it is mobile [10]. In this case as well, there was a dome-shaped, painless, fixed swelling on the hard palate. Differential diagnosis of pleomorphic adenoma includes odontogenic and non-odontogenic cysts, palatal abscess, Necrotizing sialometaplasia, mucoepidermoid carcinoma, adenoid cystic carcinoma, fibroma, lipoma [1].

The pleomorphic adenoma can be identified through a combination of patient history, clinical assessment, cytology and histopathological analysis [11]. The recent trends in diagnosis include Magnetic Resonance Imaging (MRI) and Ultrasound (US), Diffusion-weighted imaging (DWI) and dynamic contrast-enhanced (DCE) MRI. Ultrasonography reveals a hypoechoic area and in radiographs such as Occlusal radiography, C.T. and MRI, it reveals bone erosion, which usually occurs in late stage of disease [12].

The histopathological examination reveals diverse morphological patterns, displaying a combination of epithelial and mesenchymal cells with scattered regions of mesenchymal [13]. It exhibits combinations of glandular epithelium and mesenchyme like tissue and the proportion of each component varies widely among individual tumors [4].

Surgical excision is the most effective approach for treating pleomorphic adenomas [2]. For lesions in the superficial lobe of the parotid gland superficial parotidectomy with identification and preservation of the facial nerve is recommended [2]. For benign minor salivary gland tumor of the palate, a wide local excision within the palatal mucosa is recommended with 5 to 10 mm margins [9]. The exposed palatine bone is left to heal by secondary intention or resected and reconstructed with soft tissue flap [9].

The complications can occur both intraoperatively and postoperatively. Intraoperative complications include facial nerve transection, rupture of the parotid gland capsule, and incomplete tumor resection and postoperative complications encompass facial nerve paralysis, hematoma, infection, skin flap necrosis, trismus, and cosmetic deformity [14]. The most effective way to minimize these complications is through a thorough understanding of anatomy and the use of good surgical techniques, guided by multiple anatomical landmarks. Additionally, it is crucial to have pre-operative discussions and obtain informed consent, taking into account the patient's age, health, and the characteristics of the tumor [14].

Although it is a benign tumor, it has a high recurrence rate and may degenerate into malignant tumor. Most common causes of recurrence are (i) implantation recurrence, due to rupturing of the capsule, (ii) islands of tumor tissue left behind as a result of surgery, (iii) multicentricity of pleomorphic adenoma [12]. The occurrence of malignant transformation within pleomorphic adenomas varies, with reported rates ranging from 1.9% to 23.3%

Conclusion

This case report highlights the significance of prompt diagnosis and appropriate management in cases of pleomorphic adenoma originating from the palate. The diverse morphological patterns observed through histopathological examination underscore the complexity of this tumor. Surgical excision remains the primary treatment option, especially when dealing with benign tumors. Additionally, awareness of the potential for malignant transformation, particularly in cases with extended periods of tumor evolution, recurrences, advanced patient age, and major salivary gland locations, emphasizes the need for thorough follow-up and consideration of

References

1. Gupta SR, Thorawade VP, Khan MHM (2021) Pleomorphic Adenoma of Hard Palate: A Case Series. *An International Journal of Otorhinolaryngology Clinics*. 12: 11–3.
2. Neville BW, Damm DD, Allen CM, Chi AC (2016) *Oral and maxillofacial pathology*. Fourth edition. St. Louis, Missouri: Elsevier; 912.
3. Almeslet AS (2020) Pleomorphic Adenoma: A Systematic Review. *Int J Clin Pediatr Dent*, 13: 284-7.
4. Shafer WG, Hine MK, Levy BM (1983) *A textbook of oral pathology*. 4th ed. Philadelphia: Saunders, 917.
5. Amit Aggarwal, Ravinder Singh, Soheyl Sheikh, Shambulingappa Pallagatti, Isha Singla (2013) Pleomorphic adenoma of minor salivary gland: a case report. *RSBO*, 9: 97–101.
6. Bokhari MR, Greene J (2023) Pleomorphic Adenoma. In: *StatPearls [Internet]*. Treasure Island (FL): StatPearls Publishing.
7. Agarwal A, Garg R, Rathi A, Ganguly A, Mittal G (2017) Pleomorphic adenoma: A case report. 2017 Jan 1;
8. Singla S (2015) Pleomorphic Adenoma of oral cavity report of five cases with emphasis on causes of recurrences- A case series. *SEAJCRR*. 2015 Jan 15;4:1555–66.
9. Young A, Okuyemi OT (2023) Benign Salivary Gland Tumors. In: *StatPearls [Internet]*. Treasure Island (FL): StatPearls Publishing.
10. Arumugam P, Christopher PJ, Kumar S, Kengasubbiah S, Shenoy V (2023) Pleomorphic Adenoma of the Palate: A Case Re-

port. Cureus, 11: e4308.

11. Kadam SS (2020) Pleomorphic Adenoma of Palate: A Case Report. Clinics in Oncology, 5.
12. Case Report Series, Pleomorphic Adenoma of Oral Cavity Report of Five Cases with Emphasis on Causes of Recurrences – A Case series. 2015.
13. Jain S, Hasan S, Vyas N, Shah N, Dalal S (2015) Pleomorphic Adenoma of the Parotid Gland: Report of a Case With Review of Literature. Ethiop J Health Sci, 25: 189-94.
14. Marchese-Ragona R, De Filippis C, Marioni G, Staffieri A (2005) Treatment of complications of parotid gland surgery. Acta Otorhinolaryngol Ital, 25: 174-8.

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