International Journal of Pharmaceutical and Bio-Medical Science

ISSN(print): 2767-827X, ISSN(online): 2767-830X

Volume 04 Issue 09 September 2024

Page No: 739-742

DOI: https://doi.org/10.47191/ijpbms/v4-i9-04, Impact Factor: 7.792

An Unusual Case Report of Pleomorphic Adenoma of Minor Salivary Glands of Palate

Dr. Abberaamee S.[1], Dr. Sujatha G.P.[2], Dr. Shambulingappa P.[3], Dr. Ashok L.[4], Dr. Manjunath. A.B.[5]

[1]P G student Bapuji Dental college and Hospital Davangere-4

[2,3]Professor.Bapuji Dental college and Hospital Davangere-4

[4]Vice Principal and Professor & Head Bapuji Dental college and Hospital Davangere-4

[5]Professor, Department of Oral Pathology and Microbiology, Bapuji Dental College and Hospital, Davangere

ABSTRACT

Pleomorphic adenoma is a benign salivary gland tumour that exhibits wide cytomorphologic and architectural diversity. Pleomorphic adenoma (or benign mixed tumour) is a common benign salivary gland neoplasm characterised by neoplastic proliferation of epithelial (ductal) cells along with myoepithelial components, having a malignant potentiality. This paper presents a case of pleomorphic adenoma arising from minor salivary glands of palate in a female patient along with review of literature.

KEYWORDS: Pleomorphic adenoma, minor salivary gland tumor of palate, benign mixed tumour, Pleomorphic adenoma of palate

ARTICLE DETAILS

Published On:
12 September 2024

Available on:
https://ijpbms.com/

INTRODUCTION

A 63 years old female reported with a chief complaint of painless swelling in the left side of hard palate for past 6 months. History of present illness revealed that she noticed a small painless swelling in the palate 6 years back which was insidious in onset, slowly progressing to present size and not associated with any other signs and symptoms. Past medical and surgical history was non-significant. Past dental history revealed that she had visited a local dentist for the same complaint and undergone incision and drainage of the swelling but recurred 6 months ago. She consumes mixed diet, brushes her teeth once daily with toothbrush and toothpaste and has no abusive habits. On general physical examination, she was moderately built and nourished, well oriented to time, place and person with no signs of pallor, icterus, cyanosis, clubbing and organomegaly. On extra-oral examination, a solitary left submandibular lymph node was palpable, roughly oval in shape, about 1cm in size, firm, mobile and tender. (Fig no.1)

On Intra-oral examination, A solitary swelling was seen over the left hard palate, roughly oval in shape, measuring about 3X2 cm and extending anterio posteriorly 1cm palatal to attached gingiva of 25 till 27, and mediolaterally up to 2cm short of the midline. The borders were well-defined and the overlying mucosa was pale pink in colour with smooth surface. On palpation, it was non-tender & soft in consistency. The teeth 25, 26 and 27 were non-mobile and non-tender on percussion and were vital. (Fig.No. 2).

On the basis of history and clinical examination, a working diagnosis of benign lesion of palate was made. A differential diagnosis of neurofibroma, schwannoma were considered.

A blood-tinged fluid was aspirated from the swelling, which on H/E staining revealed cluster of epithelial cells with cytoplasm having plasma cytoid appearance. The cells were loosely cohesive with ill-defined borders. Few cells appear to be myoepithelial cells by morphology, this background is suggestive of the amorphous, singly distributed mucous producing cells with vacuolated cytoplasm, suggestive of Pleomorphic Adenoma of minor salivary gland. (Fig 3A & B) Radiological examinations like IOPA, OPG and occlusal radiograph of maxilla (Fig.No. 4 A-C) revealed no abnormalities.Patient underwent surgical excision and excisional biopsy of the lesion revealed a Para keratinized stratified squamous type of epithelium and the connective tissue consisting of glandular epithelium and myoepithelial cells arranged in myxomatous background surrounded by a well-defined fibrous capsule. Myoepithelial cells are predominantly epithelioid type. There was also evidence of hyalinized areas, minor salivary gland tissues, and focal inflammatory infiltrate consisting of lymphocytes and plasma

cells. The histopathological features confirmed Pleomorphic adenoma.During the follow up visits,Post-surgical site after three months showed signs of healing.(Fig no.5)

DISCUSSION

Tumours of the minor salivary glands are extremely rare. [1] Pleomorphic adenoma (PA) of the palate often develops in the third to fifth decade of life, and has a female predilection.[2,3]

It typically appears as a slow-growing, asymptomatic nodule , partially or non-encapsulated which can cause compressive bone loss.[4]

PA affects the palate most commonly (42.63%), followed by the lip (10%), buccal mucosa (5.5%), retromolar area (0.7%), and the floor of the mouth[5]

The true cause of pleomorphic adenoma is unknown, The tumor frequently shows typical translocations between chromosomes 3 and 8 leading the PLAG gene contiguity to the gene for B-catenin which initiates catenin pathway and induces inappropriate cell division[6]

The Tumour often grows unilaterally on the hard palate and may spread to the soft palate. It may also expand beyond the midline and cover the entire palatelcerations from microtrauma can cause discomfort leading to bleeding and it rarely causes bone invasion.[7-10]

PA may mimic reactive inflammatory disorders of the salivary glands namely palatal abscess, odontogenic or non-odontogenic cysts, and soft tissue tumours such neurofibroma, fibroma, and neurilemmoma.[11] A palatal abscess can be associated with the presence the of a non-vital tooth in the surrounding defect.

FNAC and core biopsy can distinguish between benign and malignant lesions and further diagnosis. The accuracy of FNAC in diagnosing pleomorphic adenoma has been reported to be 89.5-96.2%.

Common imaging modalities used to asses PA are ultrasound US, CT, and MRI.Ultrasound is commonly utilized in imaging investigations to guide FNAC and core needle biopsy. These techniques are minimally invasive and cost-effective. Usually, ultrasound of pleomorphic adenoma has a hypoechoic texture. Typically, they have a pronounced lobulated border and may have posterior auditory amplification. CT scans are quite effective in detecting bone invasion. Magnetic resonance imaging (MRI) can however help identify soft tissue spread. Typically, in CT scans, it presents as a uniform spherical mass of soft tissue with smooth or lobulated edges. [12-14]

Histpathologically, the capsule, epithelium and myoepithelial cells, and stromal elements are all necessary components of Pleomorphic adenoma. Two prospects have been postulated: the multiclonal hypothesis and the monoclonal hypothesis. According to the multiclonal hypothesis, pleomorphic adenomas are formed by stem cells of both mesenchymal and epithelial origin. According to the monoclonal hypothesis, a totipotential stem cell produces several cells that differentiate differently. Classically, it is biphasic, with a mix of polygonal epithelial and spindle-shaped myoepithelial elements in a varied background stroma that might be mucoid, myxoid, cartilaginous, or hyaline. Epithelial elements can form duct-like structures, sheets, clusters, or interlacing strands, with polygonal, spindle, or stellate-shaped cells. There may be squamous metaplasia and epithelial pearls. The tumour is encircled by a fibrous pseudo capsule of varied thickness, rather than being encased. The tumour grows through normal glandular parenchyma as finger-like pseudopodia, but this does not indicate malignant transformation[10-11].

Effective surgical techniques are crucial for preventing tumour recurrence as pleomorphic adenomas . Simple enucleation often leads to clinical failure and local recurrence of rate .[13] A conservative wide local surgical excision with complete removal of mucosal-periosteal tissue and curettage of damaged bone is recommended. Multiple recurrences which take longer to develop, increase the risk of developing carcinoma ex-pleomorphic adenoma an aggressive malignant form of the tumour with a incidence of 6%.[15-16]

CONCLUSION

Pleomorphic adenomas of the palatal minor salivary glands are relatively uncommon.Though the palatal bone infiltration is infrequent, a complete preoperative evaluation such as including clinical, imaging, and histological and cytological assessments are needed for early detection,prompt managenent and prevention of recurrence & malignant transformation. Long-term follow-up is recommended.

REFERENCES

I. Batsakis JG, Regezi JA. The pathology of head and neck tumors: salivary glands, part 1. Head Neck Surg. 1978 Sep-Oct;1(1):59-68.

II. Glick M. Burket's Oral Medicine. 12th edition. Shelton, Connecticut: People's Medical Publishing House USA. 2015.

III. Pires FR, Pringle GA, de Almeida OP, Chen SY. Intra-oral minor salivary gland tumors: a clinicopathological study of 546 cases. Oral Oncol. 2007 May;43(5):463-70. doi: 10.1016/j.oraloncology.2006.04.008. Epub 2006 Sep 18. PMID: 16979373.

IV. Rodrigues, Luana & Silva, Vinícius & Leone, Caroline & Gushiken de Campos, Wladimir & Lemos, Celso. (2023). Surgical techniques for pleomorphic adenoma in the hard palate: A case report and literature review. JORDI - Journal of Oral Diagnosis.

V. Spiro RH: Salivary neoplasms: overview of a 35-year experience with 2,807 patients . Head Neck Surg. 1986, 8:177-184. 10.1002/hed.2890080309

VI. Iida Y, Serizawa M, Mukaigawa T, Kamijo T, Nakajima T, Asakura K, Kusuhara M, Yamaguchi K, Onitsuka T. Molecular profile of a pleomorphic adenoma of the hard palate: A case report. Medicine

(Baltimore). 2020 Jul 17;99(29):e21207. doi: 10.1097/MD.0000000000021207. PMID: 32702887; PMCID: PMC7373603.

VII. Alsufyani NA, Altowaijri AA, Alshehri BM, et al. Systematic review of clinical and radiographic signs of pediatric pleomorphic adenoma of minor salivary glands. J Contemp Dent Pract 2021; 22(9): 1063–1068.

VIII. Shris N, Mishra R, Yadav D, Kandel L, Ali S, Pathak HR. Pleomorphic Adenoma of Palate: A Case Report. *Journal of Universal College of Medical Sciences*. [Online] 2013; 11(3): 1-3.

IX. Arumugam P, Christopher PJ, Kumar S, Kengasubbiah S, Shenoy V. Pleomorphic Adenoma of the Palate: A Case Report. Cureus. 2019 Mar 25;11(3): e4308.

X. Lianou AD, Zarachi A, Derka S, Sioka C, Ragkos NG, Liontos A, Tsiambas E, Asimakopoulos A, Ragos V. Pleomorphic Adenoma of Minor Salivary Glands: A Rare Case Report. *Maedica - A Journal of Clinical Medicine*. [Online] 2023; 18(1): 71-75

XI. Gupta M, Gupta M. Pleomorphic adenoma of the hard palate. BMJ Case Rep. 2013 Apr 9;2013: bcr2013008969. PubMed| Google Scholar

XII. Ahn S, Kim Y, Oh YL. Fine needle aspiration cytology of benign salivary gland tumors with myoepithelial cell participation: an institutional experience of 575 cases. Acta Cytol. 2013;57(6):567-74. doi: 10.1159/000354958. Epub 2013 Oct 1. PMID: 24107383.

XIII. Vujhini, Sudhir Kumar, Kumar, Kandukuri Mahesh; Omkareshwar, Konduru; Reddy, Sridhar; Ganesh, FNAC diagnosis of Pleomorphic Adenoma of Palate. MRIMS Journal of Health Sciences 2(1): p 57-58, Jan–Jun 2014

XIV. Jibin JoseTom,Ushass Puthalath, SreejithVP, Aparna S Nair4,VidhyaVijayanMC,Amrutha Krishnan M.Pleomorphic adenoma of the palate: A case report. J Orofac Res .2024 May 29 [cited 2024 Jul. 18];13(1).

XV. De Lima FF, Bezerra CP, Rocha AC, Martins IS, Bernaola-Paredes WE. Surgical management of palatal pleomorphic adenoma (PPA) recurrence after 10 years, treated at a Brazilian center - A case report. Ann Maxillofac Surg 2020;10:533-16.Yousra Z, Saliha C. Pleomorphic adenoma of hard palate: a case report. Pan Afr Med J. 2021 Feb 9; 38:146

XVI. De Lima FF, Bezerra CP, Rocha AC, Martins IS, Bernaola-Paredes WE. Surgical Management of Palatal Pleomorphic Adenoma (PPA) Recurrence After 10 years, Treated at a Brazilian Center - A Case Report. Ann Maxillofac Surg. 2020 Jul-Dec;10(2):533-536.

Pictures with legends

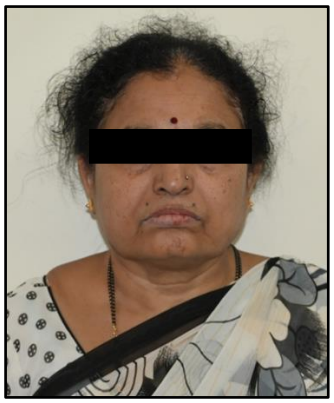

Fig. No. 1. Extra oral photograph of the patient

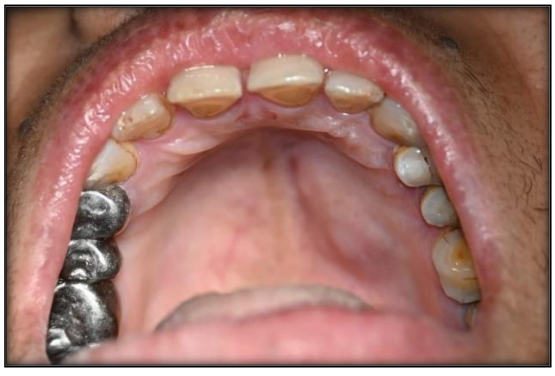

Fig 2. Clinical appearance of the swelling of palate.

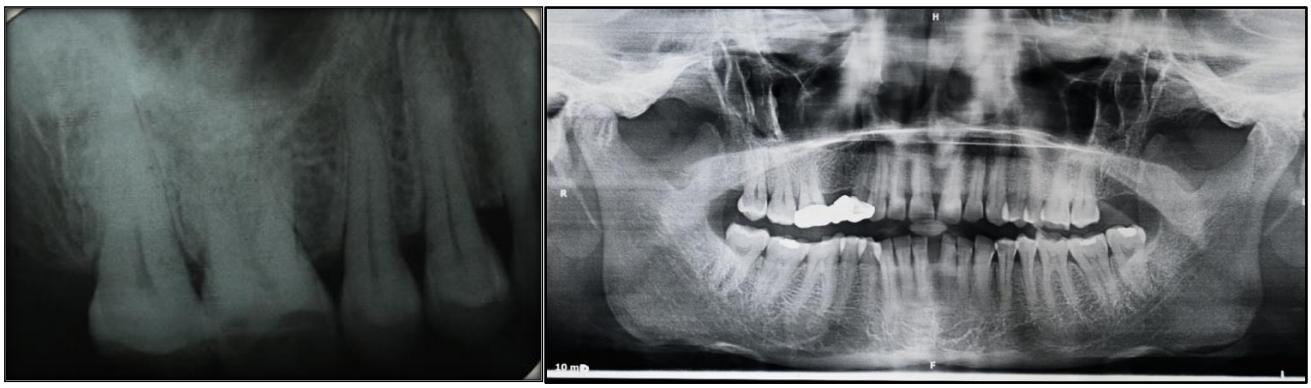

Fig 3A. IOPA irt 24, 25,26 and 27 and OPG showing no abnormality

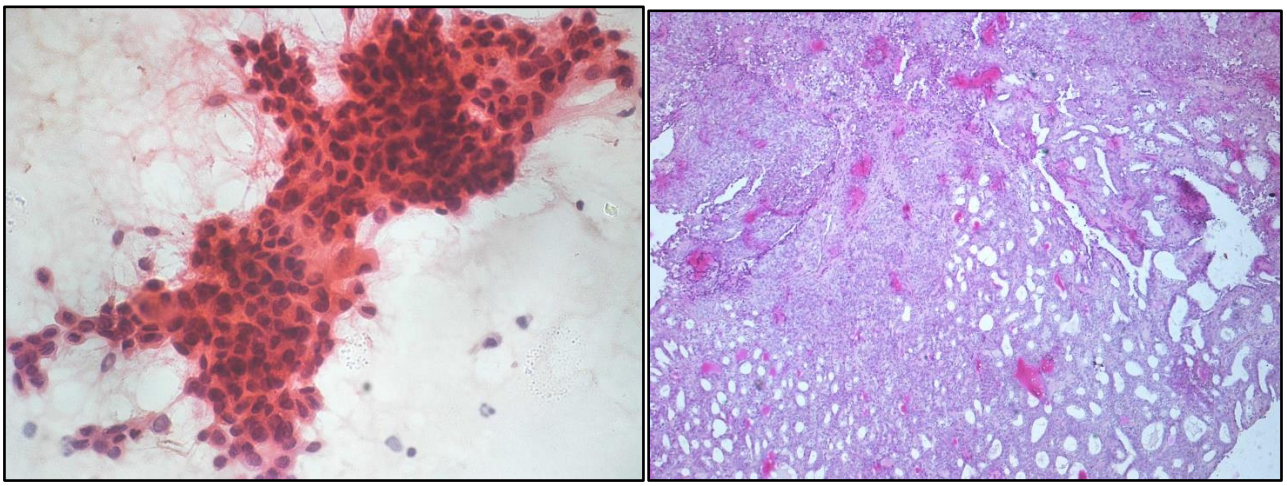

Fig 4A. & 4B .Histopathological examination with X & X magnification

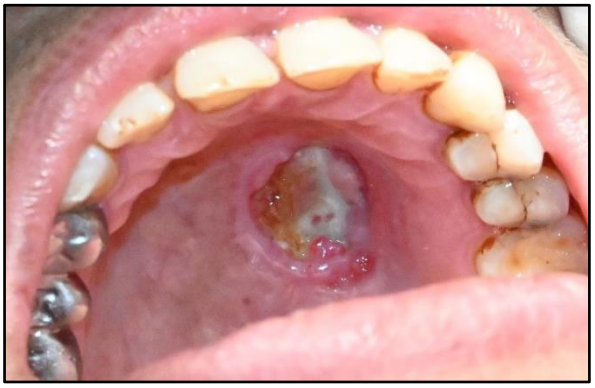

Fig. No. 5.Post surgical site after 3 months.