Pleomorphic Adenoma of Palate: A Case Report

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Abstract

Pleomorphic adenoma (PA) is the most common tumor of salivary glands, which is a benign neoplasm consisting of cells exhibiting the ability to differentiate to epithelial (ductal and non-ductal) cells and mesenchymal (chondroid, myxoid and osseous) cells. The parotid gland is the most common site (90%). Approximately, 8% of PA involves the minor salivary glands; the palate is the most common site (60-75%) of minor salivary gland involvement followed by lips and other sites. Palatal PA presents clinically as a painless, slow-growing mass found on the junction of the hard and soft palate which extend in posterolateral direction. The aim of the article is to present a case of palatal PA, with a focus on the differential diagnosis and various aids of diagnosis and its successful treatment by surgical excision.

Keywords: Adenoma, Palate, Pleomorphic

INTRODUCTION

Pleomorphic adenoma (PA) is the most common tumor of both major and minor salivary glands, but PA is the most common neoplasm of the large salivary glands and affects mostly the parotid gland, less frequently the accessory salivary glands. It initially small and derives its name from the architectural pleomorphism seen by light microscopy. It is prototypical benign yet true neoplasm; it continues to grow and regrow if not completely removed – but it is incapable of metastasis.¹ The term mixed tumor by which is descriptive rather than derivative was introduced by Broca, 1866, Minssen, 1874. More recent synonyms including epithelial mixed tumor, complex adenoma, and pleomorphic salivary adenoma emphasizes the histogenesis of the tumor, the designation PA is preferred because it emphasizes both the epithelial origin and variety of histological patterns found in this common salivary gland lesion.² The term is suggested by Willis. It is the most common benign salivary gland tumor; 84% of the PA occur in the parotid, 8% in the submandibular, and 4-6% in the minor salivary glands. A small minority of tumors are located in the nasal cavity.³ Oral PA accounts for about 45% of all oral minor salivary gland tumors. Females are more commonly affected than males, 40% of them are male, 60% female. It occurs in fourth, fifth and sixth decades of life, but may arise at any age.⁴ It also ranks as the most common salivary gland neoplasm in children, representing 66-90% of all salivary gland tumors.³ The site of predilection is the mucosa over the posterior hard palate and anterior soft palate (73%) due to the highest concentration of salivary glands and is typically a firm or rubbery submucosal mass which is tightly bound without ulceration or surrounding ulceration,¹,⁶,⁷ upper lip (17%),⁸ which is freely movable. Other intraoral sites of this tumor are the buccal mucosa, the floor of the mouth, tongue, tonsil, pharynx, and retromolar area. Review of literature reports a few cases of PA arising in the parapharyngeal space. The potential risk of the PA becoming malignant is about 6%. The smaller the salivary gland that is affected, the more likely it is to trigger a malignant tumor.⁹ Research proves the epithelial origin of the mixed tumor, as well as clonal chromosome abnormalities with aberrations involving 8q12 and 12q15. The tumor often displays characteristic chromosomal translocations between chromosomes #3 and #8. This causes the PLAG gene to be juxtaposed to the gene for β-catenin. This activates the catenin pathway and leads to inappropriate cell division.¹⁰

CASE REPORT

A 30-year-old female patient came to the department of oral medicine and radiology with a chief complaint

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of painless swelling in the palate on the left side since 1-year. Swelling was initially small which gradually increased in its size and reached to the present size with no relevant medical and drug history. On intraoral examination roughly oval swelling of size 2.5 cm × 2 cm seen on posterior part of hard palate on left side in the region of 26, 27, 28 extending posteriorly on to the soft palate (Figure 1). On palpation, it is smooth, firm in consistency and fixed to underlying mucosa. Other findings are Dental caries of 28 and chronic generalized periodontitis, with calculus deposits. The clinical differential diagnosis considered were periapical cyst in relation to 28, endoperiostesion in relation to 28 leading to palatal abscess, PA of the palate, neuroma, and neurofibroma. Intraoral radiograph and occlusal radiograph showed no evidence of bone involvement. Computed tomography (CT) scan showed a well-defined soft tissue mass with smooth margins seen arising from the palate at the junction of the hard and soft palate. It is extending into oral cavity and oropharynx on the left side extending laterally till the alveolar ridge of the left maxilla. The lesion measures 1.9 cm × 1.6 cm × 0.8 cm. There is no erosion of the underlying bones with homogenous enhancement on contrast study with no evidence of necrosis suggestive of soft tissue swelling in the oral cavity at the junction of hard and soft palate – likely of benign etiology (Figure 2). Fine needle aspiration cytology was done; cytology report showed slightly cellular smears, sheets of epithelial cells with the acinar arrangement. Cells are round to oval with hyperchromatic nuclei with anisonucleosis. Cytoplasm is moderate to abundant giving the appearance of oncocyes on a neat background. Focal areas showed myxoid background. Possibilities were oncytoma and an oncocytic variant of acinic cell carcinoma. Later for confirmative diagnosis, an incisional biopsy was done at the center of the lesion. Histopathology report showed myoepithelial cells and cuboidal cells lining the ducts which confirmed the lesion as “PA” (Figure 3), later surgical excision of the tumor was done with 1 cm margin at the periphery. Patient reviewed after 1-year was free of symptoms (Figure 4).

**DISCUSSION**

PA derives its name from the architectural pleomorphism seen by light microscopy. It is also known as “mixed tumor, salivary gland type,” which describes its pleomorphic appearance as opposed to its dual origin from epithelial and myoepithelial elements. Mixed tumor accounts for 73% of all salivary gland tumors. Corresponding to small glands, the palate is the most common site for mixed tumor. Tumors occurring in the small salivary glands account for 20-40% of all salivary gland tumors, precisely 22%, according to Spiro. Clinically PA presents as a slow-growing, asymptomatic, unilateral firm mass that may become large if untreated. When originating in the minor salivary glands, in most cases it occurs on the soft and hard palate due to the highest concentration of salivary glands there and is typically a firm or rubbery submucosal mass without ulceration or surrounding ulceration.

Histologically, it is highly variable in appearance. Classically, it is biphasic and is characterized by a mixture of polygonal epithelial and spindle-shaped myoepithelial elements in a variable background stroma that may be mucoid, myxoid, cartilaginous or hyaline. Epithelial elements may be arranged in duct-like structures, sheets, clumps or interlacing strands and consist of polygonal, spindle or stellate-shaped cells. Areas of squamous metaplasia and epithelial pearls may occur. The tumor is not enveloped but is surrounded by a fibrous pseudocapsule of varying thickness. The tumor extends through normal glandular parenchyma in the form of finger-like pseudopodia, but this is not a sign of malignant transformation.
Each tumor shares with others the essential feature of being composed of both epithelial and mesenchymal-like tissues. The proportion of each of these elements varies widely, and one or the other is often predominant. Based on which types are “cellular,” “myxoid” and “mixed” type which is a classic form. Distinctive epithelial cell types include spindle, clear, squamous, basaloid, cuboidal, plasmacytoid, oncocytic, mucous and sebaceous. In the present case, it is the cuboidal type.

The diagnosis of PA is established on the basis of history, physical examination, cytology, and histopathology. CT scan and magnetic resonance imaging can provide information on the location and size of the tumor and extension to surrounding superficial and deep structures. Fine-needle aspiration cytology and incisional biopsy can aid in the diagnosis. The treatment is strictly wide local excision with the removal of periosteum or bone if they are involved. Minor salivary gland tumors are detected and treated earlier than major salivary gland tumors because of difficulty in mastication, speech and swallowing. If the overlying mucosa is, ulcerated malignancy is suspected, which is not seen in the present case. Excision of the palatal bone is not required mostly as periosteum is an effective anatomical barrier. In the present case, there was no palatal bone involvement.

**CONCLUSION**

The present case report provides the differential diagnosis and various diagnostic procedures of swelling of the palate. Diagnosis of swellings of the palate especially PA at an early stage using different diagnostic aids helps in a better prognosis. In the present case report, patient has been followed up for 1-year, has excellent healing with no complaints and no signs of recurrence.

**REFERENCES**


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