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Case Report

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Pleomorphic adenoma of the hard palate: a cytology case report

Swarnagowri BN*, Garima Sharma, Madhobendra Bhuyan

Department of Pathology, Dr. B.R. Ambedkar Medical College, K.G. Halli, Bangalore, Karnataka, India

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*Correspondence:

Dr. Swarnagowri BN,

E-mail: swarnagowri@ymail.com

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ABSTRACT

Pleomorphic adenoma is a benign tumor of the salivary glands that has elements of both epithelial and mesenchymal tissues. They represent about 60% of tumors in the parotid, are less common in the submandibular glands, and are relatively rare in the minor salivary glands. In our experience, this is the first time that we have come across Pleomorphic adenoma arising in the minor salivary glands of the hard palate.

Keywords: Pleomorphic adenoma, Palate, Salivary gland

INTRODUCTION

Pleomorphic adenoma, also known as mixed tumor, is the most common tumor of salivary gland origin. The parotid gland is the most common location. Because of their remarkable histological diversity, these neoplasms have also been called mixed tumors. Approximately 75% of mixed tumors arise in the parotid gland. The rest occur in the submandibular gland (5% to 10%) and the minor salivary glands (10%). The most common minor salivary gland sites are the palate (60% to 65%), cheek (15%), tongue, and floor of mouth (10%). Occasionally, mixed tumors arise in intraparotid or periparotid lymph nodes or in the heterotopic salivary gland tissues.² The posterior lateral quadrant of the hard palate is the most common location for tumors of minor salivary glands, but it may be found in any mucosal region that contains salivary glands.³ They are benign tumors that consist of a mixture of ductal (epithelial) and myoepithelial cells, and therefore they show both epithelial and mesenchymal differentiation.⁴ They reveal epithelial elements dispersed throughout the matrix along with varying degrees of myxoid, hyaline, chondroid (cartilaginous), and even osseous tissue. In some tumors the epithelial elements

predominate; in others they are present only in widely dispersed foci.

CASE REPORT

We had a case of mass in the hard palate in a 13 year old girl, who gave the history of mass in the oral cavity for the past 4 months. There was no mass in the parotid region and contour of her face was normal.

With all other preliminary lab investigations being normal, FNAC was done. The aspiration was moderately cellular. Benign cohesive epithelial cells associated with fibrillar fibromyxoid stroma were noted. Also seen were myoepithelial cells and a few isolated oval cells.

The histopathology correlation showed the microscopic features of pleomorphic adenoma. The epithelial elements were seen as clusters of cells arranged in acinar and ductal form, with eosinophilic myxomatous tissue. The myoepithelial cells were seen as elongated, stellate cells.



Figure 1: Mass in the oral cavity.



Figure 2: There was no mass in the parotid region and contour of face was normal.

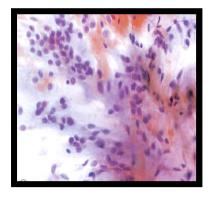


Figure 3: Pap smear showing epithelial cells in sheets and myoepithelial cells with myxoid background.

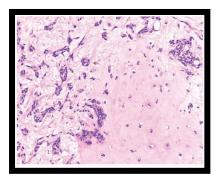


Figure 4: H&E section showing acinar and ductal cells with myoepithelial cells in the background of myxoid area.

DISCUSSION

Several benign conditions that affect the osseous hard palate may present as a palatal mass. These include both the nasopalatine duct cyst and torus palatinus. The most common is the torus palatinus, which is a hamartoma that nearly always presents as a firm palatal mass located in the midline. It is important to consider that many palatal tori are often secondarily traumatized and may have associated ulceration of the overlying mucosa. Several benign soft tissue conditions are also present on the palate. These include benign salivary gland tumors, fibromas, hemangiomas, neurofibromas, odontogenic abscesses and benign salivary gland tumors. There are a number of different benign minor salivary gland tumors including pleomorphic adenoma, papillary cystadenoma lymphomatosum, oncocytoma and canalicular adenoma. Several malignant conditions may also present as a palatal mass including malignant minor salivary gland tumors, lymphoma, squamous cell carcinoma and Kaposi's sarcoma. Fortunately, malignant conditions presenting as palatal masses are much less frequent than benign conditions with the exception of malignant minor salivary gland tumors. It is generally stated throughout the literature that approximately half of minor salivary gland tumors occur on the palate and of those, approximately half are malignant. The most common malignant minor salivary gland tumor which presents on the palate would be adenoid cystic carcinoma followed by mucoepidermoid carcinoma.

The most frequent site of pleomorphic adenoma of the minor salivary glands is the hard and soft palate, followed by the upper lip. 1,3 The term pleomorphic describes the embryogenic basis of origin of these tumours, which contains both epithelial and mesenchymal tissues. It has been postulated that these tumours arise from intercalated ducts and myoepithelial cells. 4 Pleomorphic adenomas of the oral cavity lack a well-defined fibrous capsule, a feature associated with a high recurrence rate. These tumours are also liable to invade and erode adjacent bone, which can be radiographically represented as typical mottled appearance. 5

Most pleomorphic adenomas present as rounded, well-demarcated masses rarely exceeding 6 cm in the greatest dimension. Although they are encapsulated, in some locations (particularly the palate) the capsule is not fully developed, and expansible growth produces protrusions into the surrounding gland, rendering enucleation of the tumor hazardous.⁵ The cut surface is gray-white with myxoid and blue translucent areas of chondroid.

The dominant histological feature is the great heterogeneity mentioned. The epithelial elements resembling ductal cells or myoepithelial cells are arranged in duct formations, acini, irregular tubules, strands, or sheets of cells. These elements are typically dispersed within a mesenchyme-like background of loose myxoid tissue containing islands of chondroid and,

rarely, foci of bone. Sometimes the epithelial cells form well-developed ducts lined by cuboidal to columnar cells with an underlying layer of deeply chromatic, small myoepithelial cells. In other instances there may be strands or sheets of myoepithelial cells. Islands of welldifferentiated squamous epithelium may also be present. In most cases there is no epithelial dysplasia or evident mitotic activity. There is no difference in biologic behaviour between the tumors composed largely of epithelial elements and those composed largely of seemingly mesenchymal elements. Intraoral pleomorphic adenoma appears as slowly growing, painless mass, usually in the fourth or fifth decade.³ Pain, tenderness and ulceration are unusual. Although it is a benign tumor, it has a high recurrence rate and in a small number of cases. a benign pleomorphic adenoma may develop into a malignant tumor.^{3,6}

CONCLUSION

The pleomorphic adenoma, though it is common in parotid gland, can also be seen in minor salivary glands including those of hard palate. The occurrence also can be seen in paediatric age group. While dealing with the mass lesions of the hard palate, pleomorphic adenoma should be kept in mind.

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