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ORIGINAL ARTICLE

Clinicopathological study of 74 palatal pleomorphic adenomas



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KEYWORDS

clinicopathological feature;
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pleomorphic adenoma

Background/purpose: Pleomorphic adenoma (PA) is the most common salivary gland tumor and the palate is the most common intraoral site for PA. This study aimed to present the clinicopathological features of a series of 74 palatal PAs.

Methods: Seventy-four palatal PAs were collected from 1993 to 2009. The clinical and histopathological features of these 74 PAs were reviewed and analyzed.

Results: The 74 palatal PA patients showed a marked female predilection (49:25, ~2:1) and were nearly evenly distributed from the 3rd to 8th decades of life with a mean age of 47 years. All palatal PAs were treated by wide surgical excision and recurrence was noted in one PA. Histopathologically, there were 47 classic and 27 cellular PAs. Of the 74 PAs, 12 were completely encapsulated, 40 partially encapsulated, and 22 nonencapsulated. The duct-like structures and myxoid stroma were more or less found in every palatal PA. Plasmacytoid myoepithelial cell, clear cell, squamous epithelial nest, keratin pearl, hyalinized stroma, osteoid area, and chondroid area were found in 50, 19, 29, 19, 49, eight, and six PAs, respectively.

Conclusion: We conclude that the palatal PA patients show a prominent female predilection (2:1) and are nearly evenly distributed from 20 years to 79 years of age. Plasmacytoid myoepithelial cell is the most characteristic type of tumor cell in PAs. Wide surgical excision is treatment of choice for PAs. Although ~84% of palatal PAs are partially or nonencapsulated, recurrence of the lesion is rarely encountered after total surgical removal of the tumors.

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Conflicts of interest: The authors have no conflicts of interest relevant to this article.

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Introduction

In humans, there are three pairs of major salivary glands including parotid, submandibular, and sublingual glands and 600–1000 minor salivary glands located mainly in the submucosa of oral mucosae except the gingiva and anterior hard palate.¹ The minor salivary glands include labial, buccal, glossopalatine, palatine, anterior lingual (glands of Blandin and Nuhn), posterior lingual mucous, and posterior lingual serous (von Ebner's glands) glands.¹ The pleomorphic adenoma (PA) is the most common benign tumor in both major and minor salivary glands.^{2–6} The palate is the most common intraoral site for PA.^{3–6} Therefore, it is desired to study the clinicopathological features of the palatal PAs.

In this study, 74 palatal PAs were retrieved from the files of Department of Pathology, National Taiwan University Hospital (NTUH), Taipei, Taiwan from 1993 to 2009. The clinical and histopathological features of these 74 PAs were reviewed, analyzed, and compared with those reported in previous studies.

Table 1 Demographic and clinicopathological parameters of 74 patients with palatal pleomorphic adenomas.

Clinicopathological parameters	Pleomorphic adenomas (n = 74)
Sex	
Female	49 (66)
Male	25 (34)
Female-to-male ratio	2:1
Age (y)	
Mean age (range)	47 (11–83)
0–9	0 (0)
10–19	6 (8)
20–29	8 (11)
30–39	11 (15)
40–49	16 (22)
50–59	11 (15)
60–69	10 (13)
70–79	9 (12)
80–89	3 (4)
Type	
Myxoid	0 (0)
Classic	47 (64)
Cellular	27 (36)
Capsule	
Completely encapsulated	12 (16)
Partially encapsulated	40 (54)
Nonencapsulated	22 (30)
Component	
Duct-like structure	74 (100)
Plasmacytoid cell	50 (68)
Clear cell	19 (26)
Squamous epithelial nest	29 (39)
Keratin pearl	19 (26)
Myxoid stroma	74 (100)
Hyalinized stroma	49 (66)
Osteoid area	8 (11)
Chondronoid area	6 (8)

Data are presented as n (%) unless otherwise indicated.

Methods

The study group included 74 palatal PAs retrieved from the files of Department of Pathology, NTUH from January 1993 to December 2009. All lesions > 1 cm in greatest diameter and suspected of being palatal PAs received an incisional biopsy. The whole lesion was then excised after the histopathological diagnosis was confirmed. If the tumors were < 1 cm in greatest diameter, they were surgically excised without doing the incisional biopsy in the beginning. The histopathological diagnosis of the lesion was mainly based on an examination of hematoxylin and eosin-stained tissue sections. Immunohistochemical staining was performed to identify the specific cells if needed.

The patients' data on age, sex, tumor size, treatment, and recurrence were obtained by reviewing the dental and medical charts. The excised specimens were fixed in 10% neutral formalin for at least 24 hours, dehydrated in graded alcohol, and then embedded in paraffin. If bony fragments were included, decalcification was also performed. The paraffin-embedded tissue blocks were cut in series sections of 5 μ m, which were then stained with hematoxylin and eosin and examined by light microscopy.

The PA could be classified into myxoid, classic, and cellular types depending on the amount of stroma and the proportion of cellular components. The myxoid PA had myxoid stroma > 80% of the tumor, the classic PA was composed of some duct-like structures and myoepithelial cells within a myxomatous and hyalinized stroma, and the cellular PA was predominantly cellular with little amount of stromal tissue.^{7–9} We also assessed the encapsulation of the PAs to see whether they were completely encapsulated, partially encapsulated, or nonencapsulated. In addition, the presence of duct-like structure, plasmacytoid myoepithelial cell, clear cell, squamous epithelial nest, keratin pearl, myxoid stroma, hyalinized stroma, osteoid area, and chondroid area in PAs was searched and recorded.

Results

During the period from January 1993 to December 2009, 133 palatal minor salivary gland tumors were diagnosed in the Department of Pathology, NTUH. Of the 133 cases, 78

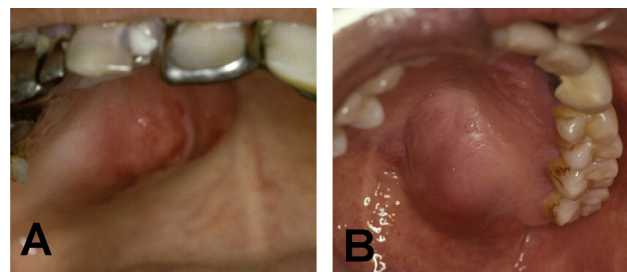


Figure 1 Clinical photographs of pleomorphic adenoma (PA). (A) A smooth-surfaced and dome-shaped PA at the right posterior lateral aspect of the palate. (B) A smooth-surfaced and dome-shaped PA at the left posterior lateral aspect of the palate.

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