

To Study the Prevalence of Salivary Gland Tumors in Bikaner Region

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Abstract

Background: To determine the prevalence of salivary gland tumours in Bikaner region

Methods: This is a retrospective and prospective study on salivary gland neoplasm a histopathological study in relation to age, sex and site over a period of 5 years, 3 years retrospective and 2 years prospective at the department of pathology, Sardar Patel Medical College and Associated Group of Hospitals, Bikaner.

Results: In Benign Tumours total 54 cases were included in the study and out of them 46 were from pleomorphic salivary adenoma while only 8 were from Warthin’s tumour. In Malignant epithelial tumours total 21 patients were selected and out of them 4 were from Adenoid Cystic Carcinoma, 2 each were from Acinic Cell Tumour and Poorly differentiated Adenocarcinoma, 1 each were from Adenocarcinoma, Lymphoepithelial carcinoma and 2 CAEX while 9 were from Mucodermoid carcinoma.

Conclusion: In Bikaner zone benign neoplasm is predominant than malignant.

Keywords: Benign, Malignant, Salivary gland.

Introduction

Salivary gland tissue is distributed widely. Salivary glands are two type, major & minor. The Major Salivary glands are the parotid, Sub-maxillary and sublingual glands.

Minor salivary glands are found in the lips (More in the upper then lower), gingiva, floor of the mouth cheek, hard & soft palates, tongue, tonsillar areas, & oropharynx¹.

Over 50% of salivary glands tumors are benign & approximately 70% to 80% of all salivary glands neoplasm originate in the parotid gland²⁻⁴. The palate is the most common site of minor salivary glands tumors. The frequency of malignant lesions varies by the site. Approximately 20 to 25% parotid tumors, 35% to 40% of sub-mandibular tumors, 50% of palate tumors & over 90% of sublingual gland tumors are malignant^{2,4}.

Material & Methods

The material for the present study was constituted by all the cases diagnosed as salivary gland tumors histopathologically & registered in available records files in histopathological section of the department of

pathology of S.P. medical college, Bikaner. The period covered by present study stretched over 3 years from June 2007 to June 2010 (retrospective study) & July 2010 to July 2012 (2 years prospective study). The case records from pathology department Bikaner & from registration office of PBM hospital, Bikaner will be used as documents giving information as regard clinical knowledge. The paraffin section stain with hematoxylin & eosin formed basis of histological identification of salivary gland tumors which are classified according to nomenclature proposed by WHO (1972) by Thariray and Sobin and revised in 2005. Whenever needed fresh section obtain from representative paraffin block.

Whenever histological diagnosis become difficult nearly by H&E staining, especial stain will be pressed upon the service to clear the dilemma. The special stain use are PAS, PAS with diastase, Alcian blue.

Biopsies and whole specimen will be received in 10% formalin. Gross features of the specimens received will be recorded. Representative sections taken and after processing tissue will be embedded in paraffin wax to make blocks after making section in microtome staining will be carried out with Haematoxylin and eosin (H&E) stain

PAS (Periodic Acid Schiff) was done for staining mucin, PAS / AB (Periodic Acid Schiff/ Alcian Blue) at pH 2.5 for nature of mucin i.e. neutral and acidic.

Observations

This is a retrospective and prospective study on salivary gland neoplasm a histopathological study in relation to age, sex and site over a period of 5 years, 3 years retrospective and 2 years prospective at the department of pathology, Sardar Patel Medical College and Associated Group of Hospitals, Bikaner.

Total 75 cases are studied in their 5 years. These were either lobulectomy or Biopsy. Out of 75 cases 54(72%)

were benign and 21(28%) were malignant. Age of patients ranged from 0-12 years (children) and >18 years (adults).

Table 1: Shows percentage of various tumours according to WHO Classification (n=75)

Tumors	No.	Percentage
A. Benign Tumours	54	72.0
1. Pleomorphic Salivary Adenoma	46	61.3
2. Warthin’s Tumor	8	10.7
B. Malignant epithelial Tumor	21	28.0
1. Adenoid Cystic Carcinoma	4	5.3
2. Acinic Cell Tumor	2	2.7
3. Adenocarcinoma	1	1.3
4. Lymphoepithelial Carcinoma	1	1.3
5. Carcinoma Ex-Pleomorphic Adenoma	2	2.7
6. Mucodermoid Carcinoma	9	12.0
7. Poorly Differentiated Adenocarcinoma	2	2.7
Total	75	100

Table 1 shows percentage of various tumours according to WHO Classification. In Benign Tumours total 54 cases were included in the study and out of them 46 were from pleomorphic salivary adenoma while only 8 were from Warthin’s tumour. In Malignant epithelial tumours total 21 patients were selected and out of them 4 were from Adenoid Cystic Carcinoma, 2 each were from Acinic Cell Tumour and Poorly differentiated Adenocarcinoma, 1 each were from Adenocarcinoma,

Lymphoepithelial carcinoma and 2 CAEX while 9 were from Mucodermoid carcinoma.

Table 2: Distribution of cases according to site in relation to Histologic Type

Site	Histologic Type				Total	
	Benign Tumours		Malignant epithelial tumours			
	No.	%	No.	%	No.	%
Parotid	47	87.0	18	85.7	65	86.7
Submandibular	4	7.4	1	4.8	5	6.7
Minor	3	5.6	2	9.5	5	6.7
Sublingual	0	-	0	-	0	-
Total	54	100	21	100	75	100

Table 2 shows distribution of cases according to site in relation to histologic type. Maximum number of cases (n=65) were found in Parotid site and out of them 47 and 18 patients had benign tumour and malignant epithelial tumours while no patient was found in sublingual site. Only 5 patients had Submandibular site and out of them 4 had benign tumour, 5 patients had minor site (palate) and out of them 3 had benign tumour.

Discussion

Our study indicate that salivary gland tumours are predominantly benign (72%) and parotid glands are commonest site (86.7%) of involvement. This study consistent with Higsonet⁵ in 1960, Grage and Labbar⁶ 1962, Ansari et al⁷ 2007 and Subhashroj et al⁸ 2008.

A Brazilian study of 493 salivary gland tumours reported a distribution of 74.8% benign and 25.1% malignant tumours.⁹ Another study performed in a Brazilian population¹⁰ reported a distribution of 67.5% and 32.5% benign and malignant neoplasms respectively. A Chinese series of 6982 salivary gland neoplasms, reported 68% benign and 32% malignant

cases.¹¹ An Iranian study of 130 cases found 68.2% benign and 31.8% malignant tumours.¹² Although these reports are from different geographical areas, they are very similar between each other and to the present review, suggesting that benign salivary gland tumours are more common than malignant tumours worldwide, with an estimated prevalence between 67 and 75% of all salivary gland neoplasms. According to the WHO and other reports and in agreement with the present results, female patients are overall more affected than men, although there are some studies that report higher prevalence's in men. These differences may be explained due to geographical variations of the populations.¹³

Conclusion

This is a retrospective and prospective histopathological study on salivary gland neoplasm undertaken in the Department of Pathology, S.P. Medical College and Associated Group of Hospitals, Bikaner over a period of 5 years. In Bikaner zone benign neoplasm is predominant than malignant. Out of total 75 cases 54(72%) were benign neoplasm. 47(87%) benign tumor occur at the parotid gland, 4(7.4%) at the Submandibular gland and 3(5.6%) at the minor salivary gland (palate).

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