TO STUDY AGE, SEX INCIDENCE OF VARIOUS SALIVARY GLAND TUMORS IN BIKANER REGION

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Abstract

Background: To determine the Incidence of various salivary gland tumours according to age and sex 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: No case was found in age groups 0-20 years while 4 patients were found in age group 21-30 years and out of them 2 each were female and male while 5 patients were found in age group 31-40 and out of them 3 were females and 2 were males. In age group 41-50, only 4 patients were found and they all were males. In age group 51-60 years, maximum number of cases (n=6) were found and out of them 3 each were female and male.

Conclusion: In Bikaner zone benign neoplasm is predominant in female and malignant predominant in male.

Keywords: Benign, Malignant, Age, Sex, Salivary gland.

Introduction

Salivary gland tumours represent an uncommon heterogeneous group of neoplasms with complex clinicopathological characteristics. The prevalence of these tumours varies between studies, but has been estimated to be 3-6% of all head and neck tumours.¹

Tumours of many different origins can arise in the salivary glands. Some authors suggest that the histopathology of these neoplasms is more complex and diverse than any other site in the body. The World Health Organisation (WHO) proposed the first histological classification of salivary gland tumours in 1972. Due to advances in the understanding of the aetiology and behaviour of these tumours as well as their wide morphological diversity, the WHO published the third and last edition of this classification in 2005.²⁻³

The glands most commonly affected are the parotid and submandibular glands respectively, usually by benign tumours (6). When the minor salivary glands are affected, it is usually by malignant tumours and almost every tumour arising from the sublingual gland is malignant.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 Thartray 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: Distribution of cases according to site in relation to Sex

Site	Sex				Total	
	Female		Male		No.	%
	No.	%	No.	%		
Parotid	33	89.2	32	84.2	65	86.7
Submandibular	2	5.4	3	7.9	5	6.7
Minor	2	5.4	3	7.9	5	6.7
Sublingual	0	-	0	-	0	-
Total	37	100	38	100	75	100

Table 1 shows distribution of cases according to site in relation to Sex. In present study, Out of 75 patients 37 were females and 38 were males. Out of 37 females, 33 had parotid site while 2 each had Submandibular and minor site. Out of total 38 males, 32 had parotid site and 3 each had Submandibular and minor site.

Table 2: Distribution of malignant cases according to site in relation to sex

Site	Sex				Total	
	Female		Male		No.	%
	No.	%	No.	%		
Parotid	7	87.5	11	84.6	18	85.7
Submandibular	0	-	1	7.7	1	4.8
Minor	1	12.5	1	7.7	2	9.5
Sublingual	0	-	0	-	0	-
Total	8	100	13	100	21	100

According to table 2, out of total 21 malignant tumour patients, 18 had parotid site and out of them 7 were females and 11 were males while Submandibular was present in only 1 male patient, Minor site was found in 2 patients and out of them 1 each was female and male patient.

Table 3: Shows relation of salivary gland tumour with age group and sex

Age Group (years)	Sex				Total	
	Female		Male		No.	%
	No.	%	No.	%		
0-10	1	1.3	4	5.3	5	6.7
11-20	4	5.3	0	-	4	5.3
21-30	11	14.7	7	9.3	18	24.0
31-40	12	16.0	13	17.3	25	33.3
41-50	4	5.3	7	9.3	11	14.7
51-60	5	6.7	5	6.7	10	13.3
>60	0	-	1	1.3	1	1.3
Total	37	49.3	38	50.7	75	100.0

Table 3 shows relation of salivary gland tumour with age group and sex. Out of total 75 salivary gland tumours, maximum number of cases were from age group 21-40 years of age (57.3%) while least common age group was >60 years where only 1 male patient was found.

Table 4: Shows distribution of benign salivary gland tumour with age group and sex

Age Group (years)	Sex				Total	
	Female		Male		No.	%
	No.	%	No.	%		
0-10	1	1.9	4	7.4	5	9.3
11-20	4	7.4	0	-	4	7.4
21-30	9	16.7	5	9.3	14	25.9
31-40	9	16.7	11	20.4	20	37.0
41-50	4	7.4	3	5.6	7	13.0
51-60	2	9.5	2	9.5	4	7.4
>60	0	-	0	-	0	-
Total	29	53.7	25	46.3	54	100

Out of total 54 salivary gland tumour, Maximum number of patients (n=34) were found between age group 21-40 years and out of these 34 patients 14 were between age group 21-30 and 20 were between 31-40 years age group. In benign salivary gland tumour group total 29 females and 25 males were found in present study.

Table 5: Shows distribution of malignant salivary gland tumour with age group and sex

Age Group (years)	Sex				Total	
	Female		Male		No.	%
	No.	%	No.	%		
0-10	0	-	0	-	0	-
11-20	0	-	0	-	0	-
21-30	2	9.5	2	9.5	4	19.0
31-40	3	14.3	2	9.5	5	23.8
41-50	0	-	4	19.0	4	19.0
51-60	3	14.3	3	14.3	6	28.6
>60	0	-	2	9.5	2	9.5
Total	8	38.1	13	61.9	21	100

Table 5 shows distribution of malignant salivary gland tumour with age group and sex. No case was found in age groups 0-20 years while 4 patients were found in age group 21-30 years and out of them 2 each were female and male while 5 patients were found in age group 31-40 and out of them 3 were females and 2 were males. In age group 41-50, only 4 patients were found and they all were males. In age group 51-60 years, maximum number of cases (n=6) were found and out of them 3 each were female and male.

Discussion

Age incidence is varies from 0-60 years of age. Peak incidence of pleomorphic adenoma is 21 to 40 years. Incidence of pleomorphic adenoma decrease after 5th decade of life. In our study only 4.3% (n=2) pleomorphic adenoma occur in 51-60 years of age.

In children, also pleomorphic adenoma is common in comparison to malignant neoplasm. In 0-10 years, 5 cases of salivary gland neoplasm occur and they all were pleomorphic adenoma.

In present study, mean age of pleomorphic adenoma is 31.93 ± 13.79 years. A finding consistent with Sengupta et al⁵ 1973, Vuhahula et al⁶ 2004 and Musanai et al⁷ 2008. In present study M:F ratio is 1:1.42 and consistent with de-Oliveira et al¹ 2009 (1:1.6). Reynolds et al⁸ 1966, Panda et al⁹ 1969 and Sengupta et al⁵ 1973.

Malignant neoplasm is rare in children consistent with Balghiti et al¹⁰ 2011. Thariat et al¹¹ 2011 in their study says that 50% of salivary gland neoplasm malignant in children.

In our study male was more prominent for malignant neoplasm. M:F ratio was 1.6:1. Our study consistent with panda et al⁸ 1969, Gerugthy et al¹² 1969 and Thomas et al¹³ 1980.

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 in female and malignant predominant in male.

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