

# Study of Incidence of Salivary Gland Tumour in Tertiary Care Hospital

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**Abstract:** Salivary gland tumours are relatively few and far when compared to other human tumours. It is said to account for less than 2% of all human tumours<sup>1</sup>. However, salivary gland tumours make up 3% of all head and neck neoplasm<sup>1</sup>. About 70% of salivary gland tumour rises from parotid gland where maximum of minor salivary gland tumours are malignant, three-fourth of parotid gland tumours are benign<sup>2</sup>. Most common type of tumour is pleomorphic adenoma of parotid gland<sup>3</sup>. The aim of this study was to analyse the various salivary gland tumour according to age, sex, location, histopathological type and strategy of treatment of patients.

**Keywords:** pleomorphic adenoma, salivary gland tumours, parotid swelling

## 1. Methods

A hospital based cross sectional prospective study was done in patients presenting with salivary gland tumours to our hospital in a period of 1 year.

### Inclusion criteria

Cases of neoplasms of salivary glands attending otorhinolaryngology department.

### Exclusion criteria

Inflammatory disorders of salivary gland, sialolithiasis and any associated systemic illness

The data collected were tabulated in Microsoft excel worksheet and computer-based analysis was performed using the statistical product and service solutions (SPSS) 20.0 software and Microsoft excel 2010. Microscopic slides were re-evaluated with haematoxylin and eosin and periodic acid-Schiff (PAS) stains whenever necessary, with the help of pathologists. All the tumours were classified according to the criteria suggested by the 2005 WHO and histological classification of salivary gland cytopathology (MSRSGC). The study was a hospital-based observational study so no statistical analysis between the parameters was evaluated<sup>4</sup>.

## 2. Results

All patients of salivary gland lesions attending otorhinolaryngology department during the study period who fulfill the inclusion criteria were included in the study.

There was a total of (n) 24 patients of salivary gland tumours during this study period. The number of cases was slightly higher in female with 13 cases in comparison to male which was only 11cases. The male to female ratio was 0.9: 1.

Most of the salivary gland tumours were found in the age group of 30 to 40 years (i. e., fourth decade of life) (Table 1).

**Table 1:** Age wise distribution

Age	No. of Patients
0-10	1
11-20	3
21-30	6
31-40	10
41-50	3
51-60	1

According to the history all the cases in our study belong to upper lower strata of modified Kuppaswamy classification. They use kerosene oil for cooking, low intake of yellow vegetables, high intake of protein diet and drink water without filtration and boiling from tube well. Among 13 cases in male 3 patients were engaged in construction work (which might have exposure to silica dust). These might be considered as risk factors of salivary gland tumours in upper Assam province.

**Table 2:** Sex Wise Distribution

Sex	No. of Patients	Percentage of Patients
Female	13	54%
Male	11	46%
Total	24	

**Table 3:** Age and sex wise distribution of benign and malignant

Tumour	Benign		Malignant	
	Male	Female	Male	Female
Age (yrs)				
0-10	0	0	1	0
11-20	1	2	0	0
21-30	2	3	0	1
31-40	0	7	2	1
41-50	0	3	0	0
51-60	1	0	0	0

**Table 4:** Site wise distribution of benign and malignant

Site	Benign	Malignant	Total
Parotid	17	4	21
Submandibular gland	1	1	2
Sublingual gland	0	0	0
Minor salivary gland	0	1	1
Total	18	6	24

There was a predominance of female in benign salivary gland tumours, but malignant tumours are more prevalent in males (table 3). The peak incidence was seen in fourth

decade in females. In our study, parotid gland was the most common site, followed by submandibular gland and then minor salivary gland (Table 4).

Superficial parotidectomy was done all benign cases. 1 case of mucoepidermoid carcinoma (as diagnosed preoperatively) presented with skin involvement was referred to state cancer institute. 2 cases of mucoepidermoid carcinoma were treated with total parotidectomy with neck dissection. Submandibular and minor salivary gland tumours were treated with total excision of the gland. Concurrent radiotherapy was given to malignant cases post-operatively in Jorhat cancer institute.

### 3. Discussion

Despite India being the second most populated country in the world and despite the tremendous advances in health care, little information is available on the clinical presentation of tumours of the head and neck in India. During this 1 year study, 24 salivary gland tumours were found in patients between the ages of 7 to 56 years.

The observations and results of our study were analysed, evaluated, and compared with observations made by various other studies on salivary gland tumours.

There was a slight overall female predominance, with a male to female ratio of 0.9: 1. The most common age group involved in both benign and malignant tumours was 31-40 years. Our findings are at dissimilarity with western literature, where salivary gland tumour occurs over a wider age group with a peak age reported in the 7th and 8th decade<sup>6</sup>.

In our study, most involved salivary gland is the Parotid gland similar to other studies<sup>9, 10</sup>. Pleomorphic adenoma constitutes total of 18 out of 24 cases and was found to be most common benign salivary gland tumour, which is similar with various studies of salivary gland tumours<sup>7, 8, 9, 10</sup>.

In a study by Zheng et al, it has been found that there is inverse association of salivary gland cancer with dark yellow vegetables<sup>3, 11</sup>. Thus, beta carotene enriched foods might be considered protective for salivary gland tumours.

Complications of surgery were seen in one case, i. e., facial nerve palsy. In another case, marginal mandibular nerve was injured, which recovered within 2 weeks. Frey's syndrome was not seen in any of the cases. However, a minimum of 6 months follow-up is necessary for diagnosing Frey's syndrome. All the patients were advised to follow up at 2nd week, 1st, 3rd and 6th months.

### 4. Conclusions

According to the study's findings, the clinical characteristics of salivary gland tumours in upper Assam province are essentially identical to those reported everywhere in the nation and the world. However, this region of the state has a slightly greater incidence pattern.

### References

- [1] Ezeanolue BC. Salivary gland neoplasms: A descriptive analysis of the pattern seen in Enugu. *West Afr J Med* 1999; 18: 179-82.
- [2] Laishram RS, Kumar KA, Pukhrabam GD, Laishram S, Debnath K. Pattern of salivary gland tumors in Manipur, India: A 10-year study. *South Asian J Cancer*. 2013; 2: 250-3.
- [3] Mili MK, Das HJ, Saikia A, Saikia NJ, Phookan J, Gohain M. Salivary gland tumours: a hospital-based study on demographic and incidence pattern, histopathological types and treatment strategy. *International Journal of Otorhinolaryngology and Head and Neck Surgery*. 2020 Dec; 6 (12): 2218.
- [4] Batsakis JG. *Tumors of the Head and Neck*. 2nd ed. Baltimore, M. D.: Williams and Wilkins; 1979.
- [5] Faquin WC, Rossi ED, Baloch Z, Barkan GA, Foschini M, Kurtycz DFI et al editors. *The Milan System for Reporting Salivary Gland Cytopathology*. Cham: Springer. 2018; 1-9.
- [6] Eveson JW, Cawson RA. Salivary gland tumours: A review of 2410 cases with particular reference to histological type, site, age and sex distribution. *J Pathol*. 1985; 146: 51-8
- [7] Lawal AO, Adisa AO, Kolude B, Adeyemi BF, Olajide MA. A review of 413 salivary gland tumours in the head and neck region. *J Clin Exp Dent*. 2013; 5 (5): 218-22.
- [8] de Oliveira FA, Duarte EC, Taveira CT, Maximo AA, de Aquino EC, Alencar Rd et al. Salivary gland tumor: a review of 599 cases in a Brazilian population. *Head Neck Pathol*. 2009; 3 (4): 271-5.
- [9] Srivani N, Srujana S, Shahista S, Kumar OS. Spectrum of salivary gland tumors-A five-year study. *IAIM*. 2016; 3 (7): 132-6.
- [10] Vijayalaxmi M, Swaminadh P, Tati ST, Gattu VR, Nakka A, Avinash C et al. Demographic And Clinico-Pathological Study of Salivary Neoplasms. *J Dental Med Sci*. 2017; 16 (10): 59-63.
- [11] Zheng W, Shu XO, Ji BT, Gao YT. Diet and other risk factors for cancer of the salivary glands: A population-based case-control study. *Int J Cancer*. 1996; 67 (2): 194-8.