



SALIVARY GLAND NEOPLASMS – AN INSTITUTIONAL EXPERIENCE

General Surgery

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ABSTRACT

Salivary gland tumours most often present as painless enlarging masses. Most are located in the parotid glands and most are benign. The principal hurdle in their management lies in the difficulty in distinguishing benign from malignant tumours. Investigations such as fine needle aspiration cytology and MRI scans provide some useful information, but most cases will require surgical excision as a means of coming to a definitive diagnosis. Benign tumours and early low-grade malignancies can be adequately treated with surgery alone, while more advanced and high-grade tumours with regional lymph node metastasis will require postoperative radiotherapy. The role of chemotherapy remains largely palliative. This paper aims to study the clinico-epidemiological pattern, histological subtypes, management and postoperative complications of salivary gland neoplasms.

KEYWORDS

Salivary gland, Parotid, Pleomorphic Adenoma

INTRODUCTION:

Salivary gland neoplasms are uncommon and represent a diverse and heterogeneous group of neoplasms with complex clinicopathologic characteristics and distinct biological behavior. The global annual incidence of salivary gland neoplasms varies from 0.4 to 13.5 cases per 100,000 population, and the frequency of malignant neoplasms ranges from 0.4 to 2.6 cases per 100,000 population.¹ Benign salivary gland neoplasms are estimated to present 5-7 times more frequently than malignant tumors and the majority (>96 %) of the benign tumors constitute pleomorphic adenoma. Parotid gland neoplasms account for the majority of the cases, followed in decreasing order of frequency by submandibular gland neoplasms, minor salivary gland neoplasms, and sublingual gland neoplasms.² Early diagnosis offers a good prognosis and better long-term survival rates. Very few studies were done on salivary gland neoplasms concerning the geographical area under study, which showed evidence of risk factors like chewing betel quid with or without associated tobacco chewing, which demands a study of salivary gland neoplasms in this region.

METHODS:

This is a retrospective study conducted on 30 patients with swelling in the region of distribution of major and minor salivary glands, admitted in the general surgery department of Madras Medical College between the period of January 2021 and June 2022. Demographic data, diagnosis and intraoperative findings were collected from case sheet records. Histopathological findings were retrieved from operative notes and histopathology reports. All the patients were followed up until 1 year after surgery.

Inclusion Criteria:

All the patients with swellings of Salivary glands, both major and minor.

Exclusion Criteria:

All patients with: other neck swellings like cervical Lymphadenopathy, infections (Parotid abscess, Ludwig's Angina), parotid disease due to systemic disease.

RESULTS:

30 patients with salivary gland tumours were studied in Madras Medical College during a period of 18 months, admitted and treated under the department of General Surgery.

Table 1 – Age Incidence

AGE GROUP	NUMBER	PERCENTAGE
0-10	-	0
11-20	-	0
21-30	3	10%
31-40	8	26.6%

41-50	13	43.3%
51-60	5	16.6%
61-70	1	3.3%

Table 2 – Sex Distribution

SEX	INCIDENCE	PERCENTAGE
MALE	12	40%
FEMALE	18	60%

Table 3 – Complaints

COMPLAINT	CASES	PERCENTAGE
PAINLESS SWELLING	23	76.6%
PAINFUL SWELLING	6	20%
FACIAL NERVE INVOLVEMENT	1	3.3%

Table 4 – Duration Of Complaints

DURATION	CASES	PERCENTAGE
< 6 MONTHS	3	10%
6MONTHS – 1 YEAR	8	26.6%
1-2YEARS	14	46.6%
2-5YEARS	3	10%
>5YEARS	2	6.6%

Table 5 – Salivary Gland Involved

GLAND	INCIDENCE	PERCENTAGE
PAROTID	26	86.6%
SUBMANDIBULAR GLAND	4	13.3%

Table 6 – Histopathological Diagnosis

HISTOPATHOLOGY	INCIDENCE	PERCENTAGE
PLEOMORPHIC ADENOMA	23	76.6%
WARTHIN'S TUMOUR	3	10%
SPINDLE CELL LIPOMA	1	3.3%
MYOEPIITHELIOMA	1	3.3%
ACINIC CELL CARCINOMA	1	3.3%
MUCOEPIDERMOID CARCINOMA	1	3.3%

Table 7 – Surgery Performed

SURGERY	CASES	PERCENTAGE
SUPERFICIAL PAROTIDECTOMY	23	76.6%
TOTAL CONSERVATIVE PAROTIDECTOMY	1	3.3%
RADICAL PAROTIDECTOMY WITH NECK DISSECTION	2	6.6%
SUBMANDIBULAR GLAND EXCISION	4	13.3%

Table 8 – Post Operative Complications

COMPLICATION	CASES	PERCENTAGE
TRANSIENT FACIAL NERVE PARESIS	3	10%
FACIAL NERVE PALSY	1	3.3%
SALIVARY FISTULA	1	3.3%
SEROMA	2	6.6%
FLAP NECROSIS	1	3.3%

In this study, the most frequent age group affected was found to be the 5th decade (Table 1). The incidence of Salivary gland neoplasms is more in the female population (Table 2). In our study, 23 patients (76.6%) presented with only swelling of the involved gland, and in 6 patients (20%), the swelling was associated with pain, while 1 patient presented with facial nerve involvement (Table 3). Most of the cases presenting to the hospital had a duration between one and two years (Table 4). The Parotid gland was the most common gland to be involved in the present study, constituting 86.6% of the cases (Table 5). Pleomorphic adenoma (involving both the parotid and submandibular gland) was noted to be the most common pathology (23 cases) (Table 6) 23 patients underwent superficial parotidectomy and 1 patient underwent total conservative parotidectomy, 2 cases underwent radical parotidectomy with neck dissection (Table 7). Of the 30 patients in this study, 8 cases developed one or more complications which included temporary/ permanent facial nerve palsy, salivary fistula, seroma and flap necrosis (Table 8).

DISCUSSION:

The present study was conducted with the aims of assessing age, sex distribution, clinical features, gland involved, histological subtypes, surgery performed, and postoperative complications of 30 cases of salivary gland tumors admitted in Madras Medical College. In this study, the most frequent age group affected was found to be the 5th decade (41-50 years), followed by the 4th decade (31-40 years). This result was comparable to the study conducted by Nezar et al from Syria and Kumar et al from Kerala and Karnataka.⁸ The incidence of salivary gland neoplasms is more in the female population and the female to male ratio overall is 1.5:1. It is consistent with the studies of Nezar et al (2020) from Syria; Galdirs et al.⁶ In our study, 23 patients (76.6%) presented with only swelling of the involved gland, in 6 patients (20%), the swelling was associated with pain, facial nerve involvement in 1 (3.3%) which is similar to the results of the study conducted by Angelica et al from Brazil, Jimsha et al.^{7,9} The duration of the presenting symptoms ranged from 4 months to 7 years. Most of the cases presenting to the hospital had a duration between one and two years. The longest period was 7 years. The parotid gland was the most common gland to be involved in the present study, constituting 86.6% of the cases. The results of this study agree with the study conducted by Venkatesh et al²⁷ from Karnataka; Nezar et al.⁵ In this study, the incidence of pleomorphic adenoma was the most common pathology 76.6% (23 cases). 23 patients underwent superficial parotidectomy and 1 patient underwent total conservative parotidectomy, 2 cases underwent radical parotidectomy with neck dissection. These results were supported by the study conducted by Nezar et al from Syria.⁵

The malignant to benign tumors ratio in this study is 0.07: 1, with more benign tumors. There was a similar observation with benign tumors exceeding that of malignant tumors in a study conducted by Aneasha et al; Venkatesh et al.¹⁰ Of the 30 patients in this study, 8 cases developed one or more complications which included temporary/ permanent facial nerve palsy, salivary fistula, seroma and flap necrosis. These results were comparable with that of the study conducted by Ahmet et al.¹²

The limitations of the present study are that it is a retrospective study and single-center study with a limited sample size (n=30) and there is a need to study a larger group of patients for a better understanding of this disease entity.

CONCLUSION:

This study is a single institutional experience of 30 salivary gland neoplasms. The parotid gland is the most commonly affected gland among the salivary glands. Comprehensive use of imaging techniques, FNAC, and histopathological examination will improve diagnostic accuracy. Pleomorphic adenoma is the most common neoplasm of the parotid gland and superficial parotidectomy is the most common surgery done, with a complication rate comparable to world literature.

Conflict of interest: None

Ethical approval: Approved by the Institutional Ethics Committee

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