

# Salivary Glands Tumors: A Clinicopathological Study about the Incidence and Distribution of Salivary Glands Tumors among a Syrian Population

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**Abstract:** Objective: to investigate the clinicopathologic characters of salivary glands tumors in Damascus, Syria. Material and methods: a retrospective study on salivary glands tumors diagnosed at Almoasat hospital, the main hospital in Damascus, from 2009 to 2016. We measured the data related to patient age, gender, tumor site and the histopathologic diagnosis. Results: out of 158 cases over eight years, 62.2% was benign tumors, 9.4% was malignant tumors and 28.4% was inflammatory lesions. Pleomorphic adenoma was the most occurring tumor (47.7%), followed by Warthin tumor (30.9%) and mucoepidermoid carcinoma (6.1%). Lesions in minor salivary glands compromised (11.03%). The peak ages of incidence were the third and fourth decades (38.35%). A slight predilection for females was observed. Conclusion: the results of this study are similar to the previous studies in other countries. However differences were observed as to the frequencies of histopathologic types. These differences could be attributed to racial factor and the latest five years of war in Syria.

**Key words:** Salivary glands lesions, Syria.

## 1. Introduction

SGTs (salivary gland tumors) are important parts of human neoplasms. Salivary gland tumors form nearly 3% of head and neck tumors. SGTs consist of a spectrum of tumors with different biological behaviors and diverse clinical pathophysiology. The most common SGT is pleomorphic adenoma and the most common malignant SGTs are MEC (mucoepidermoid carcinoma) and ACC (adenoid cystic carcinoma) [1-5].

Clinical and demographic characteristics of SGTs were studied and it was concluded that the majority of these tumors were benign. The middle age was the age of incidence for both malignant and benign tumors. Ethnic origin, alcohol consumption and cigarette smoking rates were not significantly different between groups [6-9].

The aim of this study was to assess the epidemiologic characteristics of salivary glands tumors

through 8 years in Almoasat hospital, Damascus, Syria.

## 2. Materials and Methods

It is a single hospital-based (Almoasat Hospital, department of pathology), retrospective study. All patients with salivary gland lesions presented in ENT (Ear, Nose and Throat) OPD (Out-Patient Department) of our Hospital were included in the study. Patients with salivary gland lesions who were diagnosed as inflammatory lesions on FNAC (Fine Needle Aspiration Cytology) and did not go for surgery were excluded from the study, since no histopathological material was available for follow-up study. Also recurrent and metastatic tumors were excluded.

Patients records are from January 2009 to December 2016.

Total 163 cases were studied. Data were recorded as patient's age and gender as well as site of involvement and final histopathologic diagnosis according to the patient's medical records. Microscopic examination was done with H&E staining. SGTs were classified

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based on the 2005 WHO classification. Data were analyzed using SPSS software (version 11.5).

### 3. Results

We observed 158 cases of salivary glands lesions. The overall frequencies of benign and malignant tumors were 62.02% and 9.49% (respectively), while the inflammatory lesions compromised 28.48%. PA (pleomorphic adenoma) was the most frequently occurring tumor, 34.1% of all cases and 55.1% of benign tumors. MEC was the most frequent malignancy (46.6%). Warthin tumor was the second most common benign tumor (35.7%), followed by basal cell adenoma (4.08%). Acinic cell carcinoma and adenoid cell carcinoma was the second common malignancy (20% both), followed by epithelial-myoepithelial carcinoma (13.3%). One case in this study was recorded as a squamous sialometaplasia and it was excluded of the study.

Tumors were more frequently reported in parotid gland (92.9%), followed by minor salivary glands (5.3%) and sub-mandibular gland (1.7%).

Table 1 shows the distribution and location of the lesions. These lesions mainly affected men (79%) and particular the parotid gland (73.6%).

Interestingly, all cases of basal cell adenoma were diagnosed during the sixth decade of life.

The peak age of incidence was the third and the fourth decades (38.35).

### 4. Discussion

This study summarizes SGTs in Damascus, Syria. Cases were taken from the main hospital in Damascus (Almoasat) and diagnosed according to the 2005 WHO classification over a nine-year period.

In the lesions of SGTs evaluated here, the majority of tumors were benign, in contrast to few studies [10-12] and in agreement with results of many studies [8, 13-15].

A slight prevalence frequency in women (51.8%) was in agreement with Taghavi et al. [10] and Ansari et al. [16].

It was noticed that the female to male ratio of benign tumors was equal 1:1, whereas malignant tumor had a female to male ratio of 4:1, indicating that malignant tumors were more common in females. These results are in agreement with studies of Iranian, Tunisian and Nigerian populations [10, 17, 18], but in contrast to previous studies in Brazilian, Turkish and Mexican populations [15, 19, 20].

**Table 1** Distribution and location of salivary glands lesions within this research.

Lesion	PG	SM	MSG	Total
Inflammation	13	20	12	45
Benign (n = 98)				
PA	53	1		54
Warthin	35			35
Oncocytoma	3			3
Myoepithelioma	2			2
Basal cell adenoma	2	1	1	4
Malignant (n = 15)				
MEC	6		1	7
Acinic cell carcinoma	1		2	3
ACC	1		2	3
Epithelial-myoepithelial carcinoma	2			2
Total	118	22	18	158

PG: parotid gland, SMG: submandibular gland, MSG: minor salivary gland, PA: pleomorphic adenoma, MEC: mucoepidermoid carcinoma, ACC: adenoid cystic carcinoma.

The patients' age in this study varied from 14 to 74 years old, with a mean age 38.35 years. It was in agreement with previous studies [15, 16, 21].

The main age of patients with malignant tumors had been higher in our study and these malignant tumors can be seen in older age groups, in contrast with Taghavi et al. [10] and Jansisyanont et al. [21].

The majority of SGTs originated in parotid gland. The minor salivary gland was the second most common site, which is consistent with many studies [21-24], but in contrast with some reports [17, 21, 23].

To be concluded, the results presented herein were similar to the previously published reports in some countries. However, some differences were observed, such a lower mean age of incidence. These differences can be attributed to the racial factors and the war time in the latest five years in Syria which may contribute to slightly more incidence of tumors and also war was the main results in prevalence of incidence in females as to the growing amount of immigration of males.

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