



## Original Article

## Evaluation of Oral and Maxillofacial Masses in Sample Received in Pathology Department SMC/SGTH KPK

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## ABSTRACT

Cysts, polyps and inflammatory process are the major benign tumors of the oral cavity. The SCC, lymphomas, sarcomas of bones and soft tissues and rarely melanomas are malignancies of oral cavity. Distal metastases from of breast carcinoma, lungs, abdominal organs and prostate can occur in oral cavity. The age of these lesions is among less than one year kids up to 85 years old, almost 90% of the patient's average age of 40 years. These tumors distributed in all over the world especially in the socio-demographic area. **Objectives:** To evaluate the histopathological outlines of OMF specimens received in pathological Department of SMC/SGTH KPK. **Methods:** A cross sectional retrospective study. **Results:** Of a total of 321 samples 164 (51%) were male while 157 (49%) were women with a proportion of M: F=1.05: 1. Mesenchymal tumors, other than osseous tumor, have the maximum quantity of 33.9% cases trailed by epithelioid lesions, 20%, odontogenic masses 5.3%, lesions of salivary gland were 14.6%, lesions of benign cyst were 12.5%, inflammatory lesions 11% and the minimum numbers of oral and maxillofacial specimens was bone tumor with 2.9% cases. From the benign tumors fibro epithelial tumor 23% is the commonest. The SCC was 57%, the largest contributor among all malignancies. **Conclusion:** Our study demonstrate the variations of age, sex and location in the oral and maxillofacial masses. The malignant masses are common an elderly aged patients, while the benign are more common an early and middle age people.

## INTRODUCTION

OMF is usual site for different lesions, i.e. tumors and benign masses. Growths, in this region, shared 5% of all neoplasms. Owing to the difficulty of the site, inflammatory lesions and neoplasm effecting mouth and around the mouth tissues frequently existing a diagnostic task for all medical professionals [1-3]. The malignant lesions include SCC, malignancies of soft tissue and bones, lymphomas and seldom melanomas. The distal metastases from the breast, lungs, abdominal organs and prostate carcinoma are not rare. Out of all malignancies of the upper respiratory is SCC are ninety percent of the lining mucosa with comparatively infrequent tumors arising in soft tissues and salivary glands. Females are less affected than males. Adding, hybrid masses de-differentiation and the tendency

for certain benign masses to progress to cancers can confuse Histopathological clarification. Regrettably, the morphological inconsistency of these masses is imitated by the IHC markers, which hardly beneficial in routine diagnosis of salivary gland epithelial neoplasms. As a result, Histopathological technique is the key break of the routine diagnosis [4]. Odontogenic tumors are arises from epithelial, mesenchymal and/or ecto-mesenchymal origins of the tooth-forming device and are found wholly inside the maxillofacial skeleton, or in the gingiva covering tooth-bearing areas or alveolar mucosa in edentulous site. Consciousness of basic medical features i.e. age, sex, and site are tremendously valuable in evolving differential diagnoses of Odontogenic tumors [5]. The purpose of this

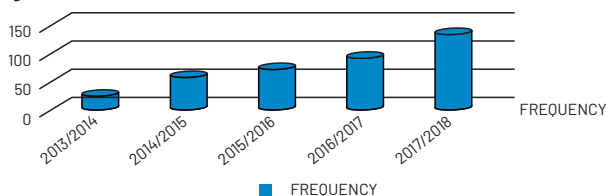
project was to determine the frequency and socio-demographic distribution of OMF tumors in KPK and nearby area.

## METHODS

The study was conducted in SMC/SGTH Pathology department, KPK. The study was conducted from Feb. 2017 to Feb. 2022. Retrospective cross-sectional the study was carried out in SMC/SGTH from Feb. 2017 to Feb 2022. All OMF biopsy satisfying the inclusion criteria were sent to SMC/SGTH, histopathology unit, which was significant to appreciate the tendency of OMF specimens and the number of specimens were 377 archives from Feb. 2017 to Feb. 2022. Non probability convenience sampling technique was used and was included on the study. Independent variables includes, site, age, gender, and year. Dependent variables were pathological finding. Inclusion criteria was all patients' specimen that received to histopathology department with OMF masses from Feb. 2017 to Feb. 2022. Exclusion criteria was specimens, which were failures Histopathological findings were excluded. Data were analyzed by using SPSS 22.0 version.

## RESULTS

Diagnosed OMF lesions total 321 specimens. The lowest OMF specimens were in 2017/18, 21(6.4%) and the maximum OMF biopsy record was in 2020/21, 134(35.5) biopsies (figure 1).



**Figure 1:** Frequency of OMF mass in each year from 2017 to 2021 321 specimens, M: F=1: 0.94 showing male dominance. The age was from one to eighty five years average was 30 year. In the 16-40 years old was maximum age distribution. Benign lesions were common in younger ages, while malignant tumors were more common in elder age. Dysplastic changes were common in younger age (table 1).

Age group	N (%)
≤15	49 (15.3%)
16-40	175 (54.7%)
≥ 41	96 (30%)
Total	321 (100%)

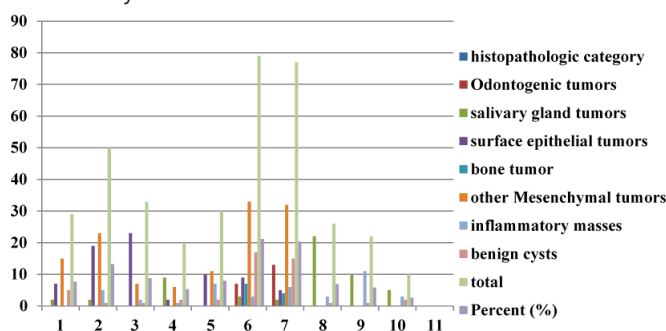
**Table 1:** OMF tumors distributions with age group

Table 2 shows OMF masses gender wise distribution, M: F ratio of 1.05: 1, indicating slight an increase of male dominance. Tumors of surface epithelial 19.9% followed by tumor of salivary glands 14.5% and least common is Osseous tumors which are 2.9% in OMF masses.

Histopathological specimens	Male	Female
Tumor of odontogenic	8	8 (5.3%)
Tumor of salivary gland	19	19 (14.5%)
Tumors of surface epithelial	39	30 (19.9%)
Benign cystic masses	20	20 (12%)
Inflammatory samples	20	15 (10.9%)
Osseous tumors	5	4 (2.9%)
Other mesenchymal tumors	47	63 (34%)

**Table 2:** OMF mass distribution with sex of the patients in SMC/SGTH

Table 3 and figure 2 shows that at the site of OMF formation, the most common area is the maxillary region 67 (21%), followed by the mandibular region 65 (20%) and buccal mucosa 41 (13%), the common localization were maxillary site 21.1% and least common in salivary gland tumors, which indicates an increase in maxillary/mandible area dominance.



**Figure 4:** Distribution of OMF masses with respect to anatomic site

Histopathologic category	site of the mass									
	buccal mucosa	tongue	palate	lips	maxillary area	mandibular area	parotid gland	submandibular gland	other salivary glands	
Dysplastic change	1	1	3	-	-	-	-	-	-	-
Inflammatory	0	4	2	1	6	2	5	3	9	4
Benign masses	18	19	9	13	14	51	54	13	7	4
Malignancies	6	19	14	4	6	17	7	7	2	1
Percentage	7.7	13.3	8.7	5.5	8	21.1	20.5	7.2	5.6	2.7

**Table 3:** Histopathological samples of OMF in different anatomic location

## DISCUSSION

The outcomes of the five-year research showed that the number of specimens in the oral cavity and maxillofacial region increased continuously during the last few years. Perhaps this is due to the increase in the quantity and quality of services provided in the pathologist and also in the maxillofacial surgery service of dentistry, an important role is played by the growing state of the health-seeking society [6]. In terms of sex distribution, out of 321 patient specimens, 164 (51%) were male and 157 (49%) female with an M: F ratio of 1.05: 1, indicating an increasing male

predominance. A similar predominance of men was observed in a teaching hospital in Bangladesh and in a retrospective review conducted in Nigeria and Pakistan in 2014 [6-9]. The age distribution has a least range of less than one year and up to 85 years with a mean of 31 years. The maximum age range of 16-40 years 175 (54%), trailed 41 years old, 96 (30%) and about 16 years 49 (16%) [8]. Among the 11% cases of inflammatory lesions, chronic nonspecific inflammation was the most common in 51.2%, followed by chronic sialadenitis in 41.5%, which was similar to the Taiwanese patient [10]. The same finding was also conducted at St. Paul's Hospital showed that among sarcomas, Kaposi's sarcoma predominates 3.31%, followed by osteosarcoma 1.1% [11, 12]. A comparable description may be related to the large socio-demographic variation of OMF even within a country, but in different regions. In this study, the most common diagnostic category for OMF was benign tumor 198 (61.6%), followed by benign tumor 83 (26%), then inflammation 35 (11%), and dysplastic changes 5 (1.4%). A study from Nigeria shows a similar result, benign lesions are commonest at 86% and malignant lesions about 14% [9, 11]. However, the results of the Kingdom of Saudi Arabia discussion differed in the predominance of benign diseases (50%) and tumors (50%) [13], and in the case of the Taiwanese patient, diseases of the inflammatory lesions group were the most common. This is followed by reactive diseases similar to tumors [10]. A parallel data was obtained in a retrospective study of pathology of the oral cavity and maxillofacial region in Jeddah with a minimum patient age and mean age of 5 months and 35 years, respectively. [6-8]. and period studies conducted at St. Paul's Hospital also show that the age of the second and third decade is similar to the usual period of presentation's [8, 14]. Hassan et al. demonstrated that, the elder age of the patients with poor prognosis and the malignancy are commonly seen in these ages compare to younger age (avg. 40 year old) benign tumors of the oral cavity in are common Pakistan [12]. Salivary gland lesions were the 2nd commonest tumors of OMF at 15%, and a parallel results were observed in Iraq, where 42.6% were odontogenic tumors and mesenchymal tumors [9, 11] and salivary gland tumors after Nigeria, were in the study of mesenchymal tumors and 37.7% of superficial tumors [15]. But this result is different from the results of a study of the southwestern population of Brazil, in which the tumor of UMF is the most common and has a rate of 37.1% [9, 12, 15]. This study shows that at the site of OMF formation, the most common area is the maxillary region 67 (21%), followed by the mandibular region 65 (20%) and buccal mucosa 41 (13%), and parallel data in a previous study in research. Nigeria [15]. The odontogenic tumors were common in the mandibular region in 65%, then in the maxillary region in 35%, and

ameloblastoma was the most common odontogenic tumor in 85%, similar to those in the Mohamebeli National Hospital, Tanzania. In Pakistan the common site for these lesions mandibular area especially for SCC in old elder ages people (9, 11). There are results, study and about the in Ethiopian hospital Odontogenic tumor an 8 year retrospective study [16]. Bone tumor severity is 2, 9% with severity 2.9% in Jagami most common Osteosarcoma 2.8% similar finding in Nigeria 11, 7% with osteosarcoma and in Tanzania and Nigeria 3.5% [9, 11, 12]. Benign cysts accounting for 47 (12.5%), the most common dentist was 7 (14.9%) and those in Iraq 37 (22%) was 4.1% followed by radicular cyst 9.5% [17-19]. Among bone diseases, central giant cell tumors were the common, followed by fibro bony tumors. The results were close to the results of earlier studies, on the other hand fibro osseous lesions were commonest than giant cell lesions in these studies. Very few cases were reported in categories of immunological disorders and infections [19, 21].

## CONCLUSIONS

Our study demonstrate the variations of age, sex and location in the oral and maxillofacial masses. The malignant masses are common an elderly aged patients, while the benign are more common an early and middle age people. The commonest malignancy is squamous cells carcinoma while the fibroepithelial polyps are more common in children and youngster.

## Conflicts of Interest

The authors declare no conflict of interest.

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