

REVIEW ARTICLE

A HISTOPATHOLOGICAL STUDY OF SALIVARY GLAND TUMORS- A CLINICOPATHOLOGICAL STUDY

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ABSTRACT:

Background: Salivary gland tumors are relatively uncommon. It accounts for < 2% of all human neoplasms. They pose considerable clinical management challenges because of their confounding histological and behavioral diversity as well as their proximity to important head and neck structures. The present study was conducted to account different salivary gland tumors among different population. **Materials & Methods:** This is a retrospective study conducted in the department of General Pathology in 5 years duration from 2010-2015. We included all the biopsies visited the department during this period. All biopsy specimens were fixed in 10% formal saline, then processed into paraffin-embedded sections and stained with hematoxylin and eosin. Specials stains were occasionally employed. All histology slides were reviewed, and classified according to the World Health Organization (WHO) histological typing of tumors. **Results:** Out of 8050 biopsies obtained, salivary gland tumors accounts for 85 which make prevalence rate of 1.05%. Out of 85 salivary gland tumors, 50 (58.8%) were seen in females and 35 (41.17%) were seen in males. There was predominance of females over males. The difference was significant ($P < 0.05$). Among benign tumors, pleomorphic adenoma was seen in males (10) and females (18), oxyphil adenoma in males (5) and females (9), basal cell adenoma in males (2) and females (7), hemangioma in males (3) and females (4) and myoepithelioma in males (2) and females (5). The difference was significant ($P < 0.05$). Malignant salivary gland tumors, most commonly seen was mucoepidermoid carcinoma in males (3) and females (2), followed by small cell carcinoma in males (2) and females (1), acinic cell carcinoma in males (2) and females (1), basal cell carcinoma in males (2) and females (1), polymorphous low grade adenocarcinoma in males (1) and females (1), acinic cell carcinoma in males (1) and females (1), 1 case of lymphoma and papillary adenocarcinoma was seen in male. The difference was non- significant ($P > 0.05$). **Conclusion:** Salivary gland tumors accounted for 1.05%. There was predominance of females over males in distribution of salivary gland tumors. Benign tumors were more common as compared to malignant tumors.

Key words: Benign, Malignant, Salivary gland tumors

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INTRODUCTION

Salivary gland tumors are relatively uncommon. It accounts for < 2% of all human neoplasms. They pose considerable clinical management challenges because of their confounding histological and behavioral diversity as well as their proximity to important head and neck structures. They have clinical importance, however, far outweighs their relatively low frequency.¹ Most of salivary gland neoplasms are idiopathic in nature. However, a variety of etiological factors such as radiation, race, smoking, chronic sialadenitis, diet etc. have been implicated in some salivary tumors. Parotid gland tumors account for a much lower fraction of salivary gland neoplasms in African series than in Western studies.

Warthin's tumor (papillary cystadenoma lymphomatosum), considered to be the second commonest salivary gland tumor in the Western countries, is conspicuously absent in most African reports. Thus there is considerable epidemiological difference in different parts of the continent.²

Among all patients, the most common tumour type is pleomorphic adenoma, which accounts for about 50% of all tumours. Warthin tumour is second in frequency among benign tumours and, in most large studies, mucoepidermoid carcinoma is the most common malignant tumour. Most canalicular adenomas and polymorphous low-grade adenocarcinomas arise from minor glands

whereas nearly all Warthin tumours occur in the parotid gland or periparotid lymph nodes.³

A number of viruses have been implicated in the pathogenesis of salivary gland tumours. There is a strong association between Epstein Barr virus (EBV) and lymphoepithelial carcinomas, but this appears to be largely restricted to Asian patients and Greenlandic Inuits.⁴

The proportion of malignant salivary gland tumors also varies from one part of world to other part of world. Considering this variation on occurrence of salivary gland tumors in world, the present study was conducted to account different salivary gland tumors among different population.

MATERIALS & METHODS

This is a retrospective study conducted in the department of General Pathology in 5 years duration from 2010-2015. We included all the biopsies visited the department during this period. The patient information such as name, age, gender etc. was obtained from biopsy requisition form. All biopsy specimens were fixed in 10% formol saline, then processed into paraffin-embedded sections and stained with hematoxylin and eosin. Specials stains were occasionally employed. All histology slides were reviewed, and classified according to the World Health Organization (WHO) histological typing of tumors. Results were

tabulated and subjected for correct inferences. P value < 0.05 was considered significant.

RESULTS

Table I shows that out of 8050 biopsies obtained, salivary gland tumors accounts for 85 which makes prevalence rate of 1.05%. Table II shows that out of 85 salivary gland tumors, 50 (58.8%) were seen in females and 35 (41.17%) were seen in males. There was predominance of females over males. The difference was significant (P < 0.05). Graph I shows that among benign tumors, pleomorphic adenoma was seen in males (10) and females (18), oxyphil adenoma in males (5) and females (9), basal cell adenoma in males (2) and females (7), hemangioma in males (3) and females (4) and myoepithelioma in males (2) and females (5). The difference was significant (P < 0.05). Graph II shows that malignant salivary gland tumors, most commonly seen was mucoepidermoid carcinoma in males (3) and females (2), followed by small cell carcinoma in males (2) and females (1), acinic cell carcinoma in males (2) and females (1), basal cell carcinoma in males (2) and females (1), polymorphous low grade adenocarcinoma in males (1) and females (1), acinic cell carcinoma in males (1) and females (1), 1 case of lymphoma and papillary adenocarcinoma was seen in male. The difference was non-significant (P > 0.05).

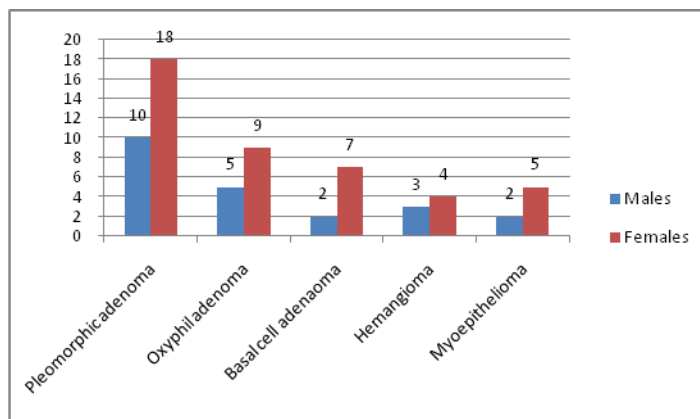
Table I Salivary gland tumors

Total	Salivary gland tumors	Percentage
8050	85	1.05%

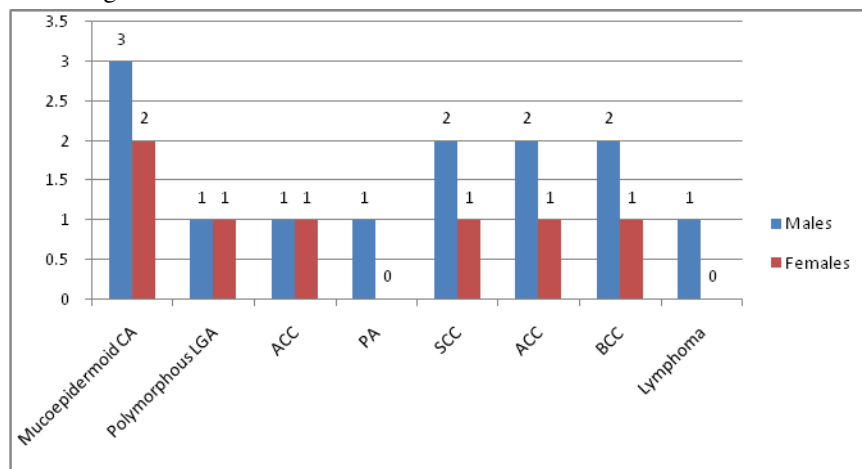
Table II Distribution according to age and gender

Age group	Gender	
	Male	Female
0-20 years	7	8
20-40 years	12	22
41-60 years	8	12
>60 years	8	8
Total	35	50

Graph I Distribution of Benign tumors



Graph II Distribution of Malignant tumors



DISCUSSION

Salivary gland tumours can show a striking range of morphological diversity between different tumour types and sometimes within an individual tumour mass. In addition, hybrid tumours, dedifferentiation and the propensity for some benign tumours to progress to malignancy can confound histopathological interpretation. These features, together with the relative rarity of a number of tumours, can sometimes make diagnosis difficult, despite the abundance of named tumour entities. The increasing use of pre-operative fine needle aspiration biopsies also needs to be taken into account, as artifactual changes may be superimposed on the tumours. Unfortunately, the morphological variability of these tumours is mirrored by the immunocytochemical profiles, so that special stains are rarely useful in routine diagnosis of salivary gland epithelial neoplasms.⁵

The present study was conducted to account different salivary gland tumors among different population. In this study, we found that the prevalence rate of 1.05% was seen in salivary gland tumors. This is in accordance to Vahahula et al.⁶ We found that there was predominance of females over males in distribution of salivary gland tumors. 58.8% were seen in females and 41.17% were seen in males. This is in accordance to Masanja MI et al.⁷

We found that among benign tumors, the most commonly seen was pleomorphic adenoma followed by, oxyphil adenoma, basal cell adenoma, hemangioma and myoepithelioma. Similar results were seen in study by Aotiba GT.⁸ El-Ghazayerli and Abdel-Aziz⁹ postulated that malnutrition and infection-induced parotid disease prevalent in several developing countries diminishes the risk of parotid neoplasms, and thus may explain the reported disparity in the relative prevalence of parotid tumors between the Third world and the West.

We found that among malignant salivary gland tumors, most commonly seen was mucoepidermoid carcinoma,

followed by small cell carcinoma, acinic cell carcinoma, basal cell carcinoma, polymorphous low grade adenocarcinoma, acinic cell carcinoma, lymphoma and papillary adenocarcinoma. This is in accordance to Otoh EC et al.¹⁰

CONCLUSION

Salivary gland tumors accounted for 1.05%. There was predominance of females over males in distribution of salivary gland tumors. Benign tumors were more common as compared to malignant tumors.

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