SALIVARY GLAND TUMOURS IN A SOUTH-SOUTH NIGERIAN TEACHING HOSPITAL: AN 8-YEAR REVIEW

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ABSTRACT

BACKGROUND: Salivary gland tumours consist of a variety of benign and malignant lesions with different patterns of presentation. The pattern of presentation in the University of Port Harcourt Teaching Hospital (UPTH) has not been reported in English literature.

OBJECTIVES: The objective of this study is to determine the age, gender, sites and histological types of salivary gland tumours seen in the UPTH and to compare their pattern of presentation to those reported.

MATERIALS AND METHODS: The records of all patients diagnosed of salivary gland tumours at the Oral Pathology Department of UPTH from January 2008 to December 2015 were retrospectively reviewed. The variables analyzed from the case notes of these patients were; the age, gender, site and histological types.

RESULTS: The total number of biopsies during this period was 374 and 29 (7.8%) of patients presented with salivary gland tumours, consisting of 20 (69%) female and 9 (31%) male. The age of the patients range from 10-68 years with a mean age of 44.3 (±15.3 SD) years. Over 70% of the patients were above 30 years in age. The most common site was the palate with 18 (62.1%) cases and the least affected site was the tongue with 1 (3.4%) case. Majority of the salivary gland tumours were malignant with 28 (96.6%) cases, while only 1 (3.4%) case was benign. Mucoepidermoid carcinoma was the most prominent tumour followed by polymorphous low grade adenocarcinoma.

CONCLUSION: Salivary gland tumours are relatively rare in our environment especially the benign lesions. Most cases affected patients above 30 years of age and the minor salivary glands of the palate are mostly affected. Mucoepidermoid carcinoma was the most common histologically diagnosed lesion.

Keywords: Salivary gland, Tumours, Histological types

INTRODUCTION

Salivary glands are exocrine glands which are associated with the oral cavity. There are two groups; the major salivary glands (parotid, submandibular and sublingual) and the minor salivary glands (these are distributed throughout the oral cavity and the nasopharynx). The tumours of the salivary glands are heterogeneous...
and are made up of both benign and malignant lesions. They are relatively rare and constitute about 2% of all human tumours and about 10% of head and neck tumours.

The prevalence of these lesions varies in different parts of the world and among different races. Also, the types and proportions of lesion seen vary from Centre to Centre. The Dental Centre of University of Port Harcourt Teaching Hospital (UPTH) attained a tertiary status about 9 years ago, therefore, there is no baseline data about the salivary gland tumours in this Center. This study was designed to determine the age, gender, sites and histological types of salivary gland tumours seen in the UPTH and to compare their pattern of presentation to those reported.

MATERIALS AND METHODS

This was a retrospective study of all salivary gland tumours diagnosed at the Oral pathology department of the Dental Centre, UPTH from January 2008 to December 2015. The slides of all patients were retrieved from the archive to confirm the diagnosis by the two Oral Pathologists in the Centre. Records of patients that were re-confirmed as salivary gland tumours were retrieved from the oral pathology reports sheet.

Information collected for each patient include, age, sex, site of lesion and the final diagnosis. These information were analyzed using SPSS version 21. Descriptive statistics were presented and cross-tabulation was done to see the differences between groups. The differences were tested using Chi-square and level of significance was set at P<0.05.

RESULTS

Twenty nine (29) patients presented with salivary tumours out a total of 374 biopsies done in the Oral Pathology Department during the study period. The prevalence rate for these tumours in our Centre was 7.8%. There were 20 (69%) female and 9 (31%) male with salivary gland tumour giving a male to female ratio of 1:2.2. The age of the patients range from 10 - 68years with a mean age of 44.3 (±15.3 SD) years. Over 70% of the patients were above 30 years in age with the highest frequency of 24.2% occurring in patients within the 7th decade of life (Table 1).

The most common site was the palate with 18 (62.1%) cases and the least affected site was the tongue with only 1 (3.4%) case (Fig 1). The lesions were majorly of minor salivary gland in origin. Majority of the salivary gland tumours were malignant with (n=28, 96.6%) while only 1 (3.4%) case was benign. The only benign lesion was a case of pleomorphic adenoma which occurred in the submandibular gland of a 32 year old female (Fig 2). Mucoepidermoid carcinoma (n=13, 44.8%) [Fig 3] was the most prominent tumour followed by polymorphous low grade adenocarcinoma (n=7, 24.1%) [Fig 4]. Carcinoma ex-pleomorphic adenoma (n=1, 3.4%) and pleomorphic adenoma (n=1, 3.4%) were the least common lesions (Table 2).

Most lesions were predominant in the female except the only case of carcinoma ex-pleomorphic adenoma which occurred in a male patient and adenocarcinoma which has equal sex predilection (Table 2). The observation is however, not statistically significant (p value =0.468)

Table 1: Patients distribution by age groups

<table>
<thead>
<tr>
<th>Age group</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-20</td>
<td>1 (3.4)</td>
</tr>
<tr>
<td>21-30</td>
<td>6 (20.6)</td>
</tr>
<tr>
<td>31-40</td>
<td>6 (20.6)</td>
</tr>
<tr>
<td>41-50</td>
<td>5 (17.4)</td>
</tr>
<tr>
<td>51-60</td>
<td>4 (13.8)</td>
</tr>
<tr>
<td>61-70</td>
<td>7 (24.2)</td>
</tr>
<tr>
<td>Total</td>
<td>29 (100)</td>
</tr>
</tbody>
</table>

Figure 2: Pleomorphic adenoma showing myxoid and trabeculae pattern (H&E, X100)
Table 2: Distribution of patients by gender and histological diagnosis

<table>
<thead>
<tr>
<th>Histological Diagnosis</th>
<th>M</th>
<th>F</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenocystic carcinoma</td>
<td>0</td>
<td>3</td>
<td>3 (10.3)</td>
</tr>
<tr>
<td>Adenocarcinoma (NOS)*</td>
<td>1</td>
<td>1</td>
<td>2 (6.9)</td>
</tr>
<tr>
<td>Basal cell adenocarcinoma</td>
<td>0</td>
<td>2</td>
<td>2 (6.9)</td>
</tr>
<tr>
<td>Carcinoma ex-pleomorphic adenoma</td>
<td>1</td>
<td>0</td>
<td>1 (3.4)</td>
</tr>
<tr>
<td>Mucoepidermoid carcinoma</td>
<td>5</td>
<td>8</td>
<td>13 (44.8)</td>
</tr>
<tr>
<td>Polymorphous low grade adenocarcinoma</td>
<td>2</td>
<td>5</td>
<td>7 (24.1)</td>
</tr>
<tr>
<td>Pleomorphic adenoma</td>
<td>1</td>
<td>0</td>
<td>1 (3.4)</td>
</tr>
<tr>
<td>Total</td>
<td>9 (31)</td>
<td>20 (69)</td>
<td>29 (100)</td>
</tr>
</tbody>
</table>

*NOS: Not otherwise specify

DISCUSSION

Previous reports indicate that salivary glands constitute about 2% of all human tumours and about 10% of tumours of the head and neck region. \(^3\)\(^5\) The prevalence of these lesions varies among different populations. In the present study, the prevalence of salivary gland tumours among all biopsies performed was 7.8%. This value is higher than 5.4% reported by Bahra et al \(^6\) and 6.3% reported by Ladeinde et al \(^5\) in similar studies from Kenya and Lagos respectively. However, the prevalence in this study is lower than 13.7% reported in the United Kingdom (UK). \(^7\)
In this study, there was female predilection (69%) for salivary glands tumours. This is similar to the reports of several studies from Nigeria, other parts of Africa and the UK but differs from the reports of Ladeinde et al in Lagos and Aliyu et al in Sokoto, which also reported palatal predilection for these lesions. It is generally believed that tumours of the minor salivary gland are more common among Africans than the Europeans and Americans. The reason for this is however not clear, it may be related to genetic or environmental factor, there is need for further studies in this regard. Majority (96.6%) of the tumours reported in this study were malignant. This is contrary to the report of most other studies which have reported more benign salivary gland lesions but similar to the reports of Ladeinde et al, (60.8%) Aliyu et al (66.0%) and Adeyemi et al (62.0%). The reason for this is not clear but this may be related to the poor awareness and because patients with malignant lesions are forced to seek for care due to the associated signs and symptoms, while patients with benign lesion which are generally asymptomatic may not border to seek care. Also, the lesions in this study were majorly from intraoral minor salivary gland, which may explain the predominance of malignant salivary gland tumours.

There is no controversy on which lesion is the most common among the salivary glands tumours. Several studies have reported different tumours as the most common. Unlike in this study and that of Ochicha et al in which mucoepidermoid carcinoma was reported as the most common, Bahra et al reported pleomorphic salivary adenoma, and Chidzonga et al reported adenocystic carcinoma. More recently, Aliyu et al and Okoh et al reported squamous cell carcinoma and acinic cell carcinoma respectively than those reported by Chizonga et al (35 years) Sila et al (32 years) and Vahahuhla (38.1 years) but lower than that reported by Jones et al (60 years). Also, over 70% of patients in this study were above 30 years in age; this observation is in agreement with the general opinion that salivary gland tumour is rare in children and corroborates the findings of Ladeinde et al and Oti et al.

As regards the site, the minor salivary glands were more affected with the most common site being the palate (62.1%). This is in agreement with the findings from other Nigerian studies by Ladeinde et al (55%) in Lagos and Aliyu et al (61.2%) in Sokoto, which also reported palatal predilection for these lesions. It is generally believed that tumours of the minor salivary gland are more common among Africans than the Europeans and Americans. The reason for this is however not clear, it may be related to genetic or environmental factor, there is need for further studies in this regard. Majority (96.6%) of the tumours reported in this study were malignant. This is contrary to the report of most other studies which have reported more benign salivary gland lesions but similar to the reports of Ladeinde et al, (60.8%) Aliyu et al (66.0%) and Adeyemi et al (62.0%). The reason for this is not clear but this may be related to the poor awareness and because patients with malignant lesions are forced to seek for care due to the associated signs and symptoms, while patients with benign lesion which are generally asymptomatic may not border to seek care. Also, the lesions in this study were majorly from intraoral minor salivary gland, which may explain the predominance of malignant salivary gland tumours.
as the most common malignant salivary gland tumours.

In conclusion, salivary gland tumours are relatively rare in our environment especially the benign lesions. Most cases in this study affected patients above 30 years of age and the minor salivary glands of the palate were mostly affected. Mucoepidermoid carcinoma was the most common histologically diagnosed lesion.

Conflict of Interest: None declared

REFERENCES