Descriptive pattern of Benign Salivary Gland Tumours in Jos University Teaching Hospital (JUTH), Jos: A ten-year retrospective study.

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ABSTRACT

Background
Salivary gland tumours are common head and neck tumours which account for 2.8 to 10% of all head and neck tumours in most African studies and 8.0 to 10.5% in most western literature. Benign salivary gland tumours are the commonest form of salivary gland neoplasm, with the ratio of benign to malignant tumours ranging from 1.2:1 to 2:1.

Objectives: This study is aimed at describing the histological pattern, age, sex and site distribution of benign salivary gland tumours in Jos University Teaching Hospital from January 1997 to December 2006.

Methods: This was a descriptive study of all histologically confirmed benign salivary gland tumours over a period of ten years. The slides were reported independently by four pathologists. Diagnosis was made and classification done according to the World Health Organization (WHO) classification of salivary gland tumours. Data such as age, sex and site of distribution of these tumours were obtained from the patient’s case files.

Results: Results show that benign salivary gland tumours had a higher distribution than malignant salivary gland tumours with a ratio of 1.7:1. Of these benign salivary gland tumours, male predominance over females was generally observed. Benign salivary gland tumours occurred more within the age range 4 to 49 years (table 1), with pleomorphic Adenoma accounting for the highest frequency (115) and basal cell adenoma for the lowest frequency (1) (table 2). Parotid gland was also the commonest site of occurrence of most of these lesions except for basal cell adenoma which was found in the sublingual gland.

Introduction
Salivary gland tumours are relatively uncommon compared to other tumours and is said to account for less than a 2% of all human tumours. They are however common head and neck tumours accounting for 2.8 to 10% of all head and neck tumours in African studies and 8.0 to 10.5% in western literatures. Benign Salivary Gland tumours is said to be more common than malignant ones accounting for ratio between 1:2:1 to 3:5:1 in most studies.

Aetiology of Salivary Gland tumours is relatively unknown and high risk population have not been identified except for the rare lymphoepithelioma-like carcinoma. Irradiation, genetic factors and diet are possible attributable actors. About 65% to 85% of Salivary Gland tumours arise within the parotid, 10% in the submandibular gland and the remainder in minor salivary glands. The likelihood of a salivary gland tumour being benign is directly proportional to the size of the gland of origin.

In Africa only few studies on Salivary Gland tumours have been reported mainly in Tanzania, Kenya, Nigeria with prevalence of Salivary Gland Tumour ranging from 2.8% to 10% in these countries slightly different from that of the western world which is 8.0% to 10.5%.

In Nigeria, prevalence of salivary gland tumours is reported to range between 2.8 -10%. In all the various centers in Nigeria, Africa and western world benign salivary gland tumour stands out as the commonest Salivary gland tumour with pleomorphic adenoma being the commonest histological type. Parotid gland also stands out as the commonest site of occurrences of most of these benign lesions.

This study is the first comprehensive study of such in Jos University Teaching Hospital JUTH and findings will form the basis for health planning and further research.

Methods
This was a descriptive study of all histologically confirmed benign salivary gland tumours over a period of ten years. The study was conducted at Jos University Teaching Hospital (JUTH) Jos which is located in Jos city of Plateau State in North Central region of Nigeria. It has a 530 bed capacity and serves as a referral centre for most private, missionary and Government hospitals in this region. The histopathology laboratory of the hospital receives about 30-40 salivary gland specimens annually.

Fresh sections of tissue blocks of all histologically confirmed benign salivary gland tumours over the period of study were made. The tissues were mainly excisional and incisional biopsies of salivary gland lesions. The sections were cut using the microtome (3 microne). They were made into slides and stained with Hematoxylin and Eosin (H and E) and Periodic Acid Schiff (PAS) stains. The H and E stain is the routine stain for diagnosis and PAS stain is the special stain mainly used in this study to stimulate the different type of stromal components in cases of pleomorphic adenoma (benign mixed tumour). The slides were reported independently by four pathologists. Diagnosis was made and classification done according to the World Health Organization (WHO) classification of salivary gland tumours. Information such as age, sex, site were also retrieved from patient’s case files.
Introduction

Salivary gland tumours are relatively uncommon compared to other tumours and is said to account for less than a 2% of all head and neck tumours in the western world. The frequency of salivary gland tumours has been reported mainly in Tanzania, Kenya, Nigeria with Nigeria being the commonest site for benign salivary gland tumours. The parotid gland was the commonest site accounting for 7(6%) of all benign cases (table 2). Pleomorphic adenoma was the commonest benign salivary gland tumour accounting for 115 (90%) of all benign cases (table 1).

The age range for the benign tumours was between 4-49 years with the age group 31-40 years accounting for the highest frequency 73 (57%) with a mean age of 31 years (table 1).

The parotid gland was the commonest site of occurrence for these benign salivary gland tumours accounting for 101 (97%) of cases, while the sublingual gland was the least affected site accounting for 7(6%) of all benign cases (table 2).

The age group 31-40 years accounts for the highest percentage (57%) of benign tumours (Table 1). This is similar to findings in other Nigerian, African and European studies.5,6,7 Thus benign salivary gland tumours generally occur in relatively younger age group than the malignant ones.

The parotid gland was found to be the commonest site of occurrence for benign lesions accounting for the highest percentage (79%) followed by submandibular gland (16.0%) and sublingual gland (6%) (table 2). This is similar to findings in other Nigerian, African and European studies.5,6,7 Thus, the largest salivary gland (parotid) remains the commonest site for benign salivary gland tumours.

Discussion

Of the 202 salivary gland tumours studied, 128 (63%) were benign while the remaining 74 (37%) were malignant with a ratio of benign : malignant (1.7:1). This is consistent with findings reported in Ibadan by Kolude B et al, in Maiduguri by Otoh EE et al, in Tanzania by Masanga MI et al and in western literature by Stell et al who all reported higher ratios of benign over malignant salivary gland tumours.2,4

Of the 128 benign salivary gland tumours studied, the distribution showed a slight male preponderance over females (1.2:1). This findings differ from that from centres in Ibadan and Lagos who reported a slight female preponderance over male.5,6 The higher male preponderence in this study might be connected to the sample size and some cultural factors that do not allow females attend clinic alone without permission from their male counterparts in the Northern part of Nigeria which is our study area.

Table 1: Distribution of benign salivary gland tumours by age

<table>
<thead>
<tr>
<th>Site</th>
<th>PA (%)</th>
<th>AL (%)</th>
<th>ON (%)</th>
<th>BA (%)</th>
<th>BNET (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 20</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>2 (100.0)</td>
<td>2</td>
</tr>
<tr>
<td>21-30</td>
<td>40 (34.9)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>40</td>
</tr>
<tr>
<td>31-40</td>
<td>65 (56.5)</td>
<td>6 (100.0)</td>
<td>1 (25.0)</td>
<td>1 (100.0)</td>
<td>0 (0.0)</td>
<td>73</td>
</tr>
<tr>
<td>41-50</td>
<td>10 (8.7)</td>
<td>0 (0.0)</td>
<td>3 (75.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>128</td>
</tr>
</tbody>
</table>

Table 2: Distribution of benign salivary gland tumours by anatomical site

<table>
<thead>
<tr>
<th>Site</th>
<th>PA (%)</th>
<th>AL (%)</th>
<th>ON (%)</th>
<th>BA (%)</th>
<th>BNET (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parotid</td>
<td>93(80.9)</td>
<td>4 (66.7)</td>
<td>3 (75.0)</td>
<td>0 (0.0)</td>
<td>1 (50.0)</td>
<td>2</td>
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<tr>
<td>Submandibular</td>
<td>16 (13.9)</td>
<td>2 (33.3)</td>
<td>1 (25.0)</td>
<td>0 (0.0)</td>
<td>1 (50.0)</td>
<td>40</td>
</tr>
<tr>
<td>Sublingual</td>
<td>6 (5.2)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (100.0)</td>
<td>0 (0.0)</td>
<td>73</td>
</tr>
<tr>
<td>Total</td>
<td>115</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>128</td>
</tr>
</tbody>
</table>

References

A review of the impact of cost and quality of HIV kits on HIV testing in a Nigerian Teaching Hospital

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Abstract

Background: When HIV antibodies testing was introduced in Aminu Kano Teaching Hospital, Kano a couple of years ago, Double ELISA was used to test blood samples before a particular specimen was diagnosed as reactive or non-reactive. A time came when immunocomboratory test was introduced into HIV antibodies testing for confirmations of the presence of HIV.

Objectives: This present retrospective study is to review the impact of cost and quality of HIV reagent kits in the two periods A and B on the patients and confidence on the health care provider.

Methods: We collated and compared laboratory records for both periods of HIV antibodies testing at Aminu Kano Teaching Hospital Kano consisting of period A from November 1997 to May 1998 (7 months) and period B from November 1998 to May 1999 (7 months). In period A, double ELISA was used (Genie II and Immunocomb Bispot) while in period B, Immunocomb Bispot and Immunocomfirm II were used.

Results: The results show that the cost per test increased from two hundred and fifty Naira($2) to five hundred Naira($4). There was a reduction on the number of patients from 289 to 258 within the two periods. But the prevalence of reactive HIV antibodies decreased from 43.6% to 36.8%.

Conclusion: The period when Immunocomboratory technique was introduced brought assurance, reliability and confidence to HIV diagnosis test in the centre.

Introduction

Laboratory testing of patients for Human Immunodeficiency Virus (HIV) infection is an important tool in health for both patients and healthy individuals. As the knowledge of HIV infection is increasing so also the complexity of laboratory tests for its detection is increasing. Over 22 million people were estimated by the WHO to be infected with HIV in developing counties and most of which are in Sub-Saharan Africa as at year 1999-2000. The first HIV antibodies detection technique was licensed in 1985 by the Food and Drug Administration (FDA) in America. Since then several test kits have been produced and introduced into the world markets. When HIV antibodies testing was introduced many years ago, the World Health Organization (WHO) recommended that Double ELISA (techniques) be adopted by developing countries before a patient can be said to be positive for HIV infection. This was to avoid false results often associated with these technologies (first and second generation ELISA kits). As time went on, the government of Nigeria introduced a confirmatory test technique for more reliability of results. This present study therefore presents two periods A and B when the different techniques were introduced in our center and the effects on the patients and health care providers.