



A REVIEW OF PAROTID GLAND TUMOURS IN PORT HARCOURT, NIGERIA ONOTAI LUCKY, DEPARTMENT OF ENT SURGERY UPTH, PORT HARCOURT RIVERS STATE AND OPARA KINGSLEY DEPARTMENT OF SURGERY IMO STATE UNIVERSITY TEACHING HOSPITAL ORLU, IMO STATE

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ABSTRACT

BACKGROUND: Among salivary gland tumors, 80% arise in the parotid glands. Parotid tumors pose a challenge to most surgeons both in diagnosis and treatment. This study evaluates the clinical profile and management outcomes of parotid gland tumors in Port Harcourt, Nigeria.

MATERIALS AND METHODS: The records of patients who presented with parotid gland swellings to the department of Ear, Nose and Throat Surgery in the University of Port Harcourt Teaching Hospital (UPTH) and Kinx Medical consultant clinic in Port Harcourt, over a 7-year period (May 2007 to June 2014) were retrospectively examined. Patients' demographic data, clinical presentation, investigations, surgical management, histological diagnosis and outcome were obtained and analysed.

RESULTS: A total of 48 patients with parotid tumors were seen out of a total of 3095 patient who had head and neck tumors giving a prevalence of 1.6%. Age range was 20-75 years with a mean of 47.58 (SD \pm 11.93) years. The M: F ratio was found to be 1.4:1. The commonest 30 (62.5%) mode of presentation was firm to soft pre-auricular swelling. Five (10.4%) patients were found to be retroviral positive preoperatively. Superficial parotidectomy was the predominant 45 (93.7%) form of surgery carried out while 3 (6.2%) of our patients had total parotidectomy out of which one had reconstruction of the skin around the parotid area with a bilobed random transposition flap. Pleomorphic adenoma was the commonest 41 (85.4%) tumor seen in our series. Immediate post-surgical transient facial nerve palsy was the commonest 40 (83.3%) surgical complication encountered.

Post-surgical radiotherapy was recommended to all patients who were found to have malignancies.

CONCLUSION: Pleomorphic adenoma was the commonest histopathologic parotid salivary gland tumor that required surgery in our environment while the commonest post-surgical complication was transient facial nerve palsy. To improve the outcome of management of patients with malignancies a standard functional Radiotherapy facility should be established in every tertiary health facilities in the country to enhance cost effective patient management.

INTRODUCTION

Salivary gland tumors have different clinical presentation, different appearance and above all are relatively uncommon in the general population. They constitute 3% to 4% of all head and neck neoplasms^{1,2}. The parotid gland is the largest salivary gland among the major salivary glands found in the human body and 80% of parotid gland tumours arise in the parotid glands while 10-20% arises in the other salivary glands. Benign neoplasm that arise in the parotid salivary glands are common and they represent a wide variety of tumors of which the occurrence of pleomorphic adenoma ranked highest in most series with a relative proportion of some of the tumors being malignant^{3,4}.

The etiology of salivary gland neoplasms is not fully understood. However, there are associated factors implicated such as radiation therapy in low doses has been associated with the development of parotid neoplasms several years after treatment.

Tobacco and alcohol, which are highly associated with head and neck squamous cell carcinoma, have not been shown to play a major role in the development of malignancies of the salivary glands. Though, tobacco smoking has been associated with the development of Warthin tumors^{5,6}.

The diagnosis and treatment of parotid salivary gland neoplasms remain a complex and challenging problems for the head and neck surgeon. Moreover, the successful diagnosis and treatment of patients with parotid gland tumors require a thorough understanding of tumor etiology, biologic behavior of each tumor type, and the salivary gland anatomy.

A review of literature showed that there is paucity of information on parotid gland tumours in our environment hence, this study was carried out to evaluate the clinical profile and management outcomes of parotid gland tumors in Port Harcourt, Nigeria.

MATERIALS AND METHODS

The records of patients who presented with parotid gland swellings to the department of Ear, Nose and Throat Surgery in the University of Port Harcourt Teaching Hospital and Kinx Medical consultant clinic in Port Harcourt, over a 7-year period (May 2007 to June 2014) were retrospectively examined. Patients' demographic data, clinical presentation, investigations, surgical management, histological diagnosis and management outcomes were obtained and analyzed. Descriptive data was illustrated using simple statistical tables with percentages and pie charts while categorical data like mean and standard deviation were calculated using SPSS version

16.

RESULTS

A total of 48 patients with parotid tumors were seen out of a total of 3095 patient who had head and neck tumors giving a prevalence of 1.6%. Age range was 20-75 years with a mean of 47.58 (SD \pm 11.93) years. The M: F ratio was found to be 1.4:1. The commonest 30 (62.5%) mode of presentation was firm to soft pre-auricular swelling. Five (10.4%) patients were found to be retroviral positive preoperatively. Superficial parotidectomy was the predominant 45 (93.7%) form of surgery carried out while 3 (6.2%) of our patients had total parotidectomy out of which one had reconstruction of the skin around the parotid area with a bilobed random transposition flap.

Pleomorphic adenoma was the commonest 41 (85.4%) tumor seen in our series. Immediate post-surgical transient facial nerve palsy was the commonest 40 (83.3%) surgical complication encountered while a few (n=4, 8.3%) of the patients had tumor recurrence. Post-surgical radiotherapy was recommended to all patients who were found to have malignancies. However, 2 (4.2%) patients are yet to commence radiotherapy treatment due to waiting list and equipment failure.

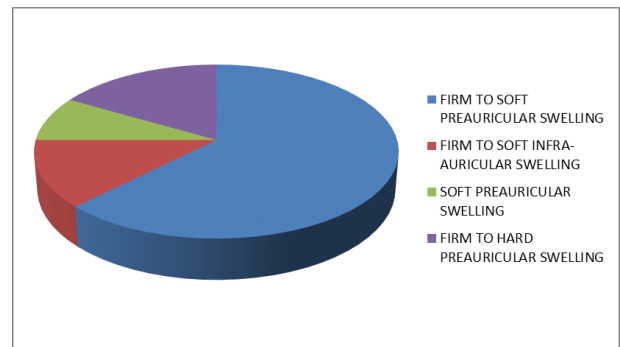


FIGURE 1: PIE CHART SHOWING THE PERCENTAGES OF CONSISTENCY AND SITE OF PAROTID SWELLING AT PRESENTATION

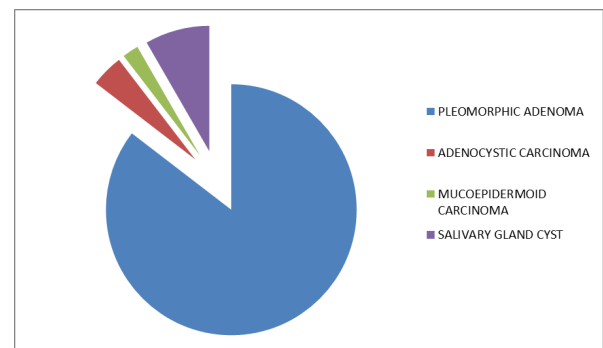


FIGURE 2: PIE CHART SHOWING PERCENTAGES OF HISTOPATHOLOGICAL DIAGNOSIS OF PAROTID GLAND TUMOURS

AGE RANGE (YEARS)	NUMBER OF PATIENTS	PERCENTAGE
20-30	10	20.8
31-41	20	41.7
42-52	8	16.7
53-63	6	12.5
64-74	3	6.2
75 AND ABOVE	1	2.1
TOTAL	48	100

Table 1 Age range of patients



FIGURE 3: SHOWING A MALE PATIENT WITH PRE-AURICULAR SWELING OF THE RIGHT PAROTID GLAND

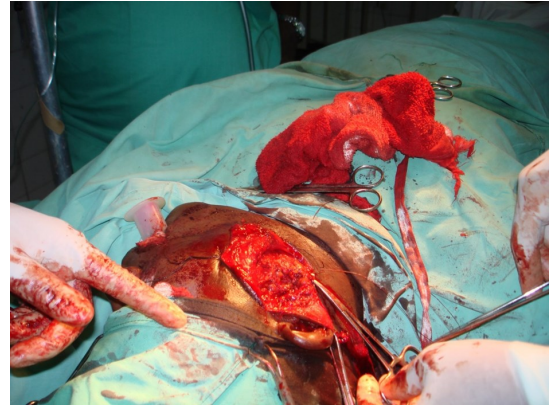


FIGURE 5: SHOWING A PATIENT UNDERGOING SUPERFICIAL PAROTIDECTOMY



FIGURE 4: SHOWING A FEMALE PATIENT WITH INFRA-AURICULAR SWELING OF THE RIGHT PAROTID GLAND

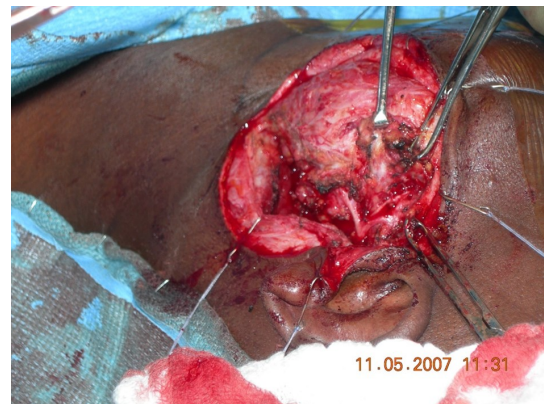


FIGURE 6: SHOWING FACIAL NERVE AND ITS BRANCHES AFTER THE REMOVAL OF THE SUPERFICIAL LOBE OF THE PAROTID GLAND



FIGURE 7: SHOWING A LAZY- S INCISION USED FOR SUPERFICIAL PAROTIDECTOMY



FIGURE 9: SHOWING A LATERAL VIEW OF A FEMALE PATIENT WITH HUGE PAROTID TUMOUR WITH SKIN INVOLVEMENT THAT REQUIRES RECONSTRUCTION

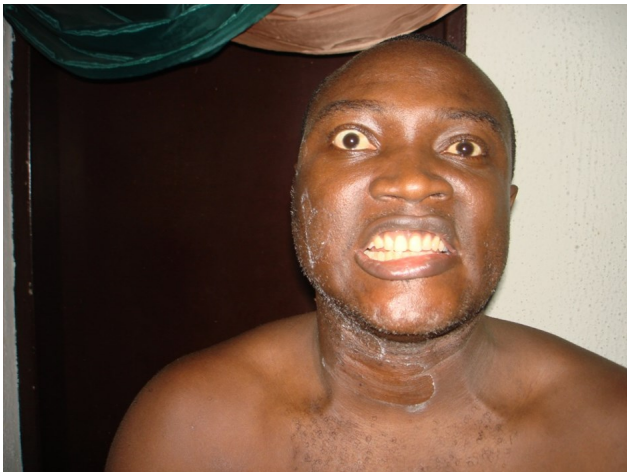


FIGURE 8: SHOWING FEATURES OF FACIAL NERVE PALSY AFTER SUPERFICIAL PAROTIDECTOMY



FIGURE 10: SHOWING SKIN RECONSTRUCTION PROCESS AFTER TOTAL PAROTIDECTOMY



FIGURE 11: SHOWING ON GOING RECONSTRUCTION PROCESS AFTER TOTAL PAROTIDECTOMY



FIGURE 13: SHOWING THE PATIENT ON THE 5TH DAY POST OPERATION



FIGURE 12: SHOWING THE COMPLETE RECONSTRUCTION OF THE LOSS SKIN AFTER TOTAL PAROTIDECTOMY

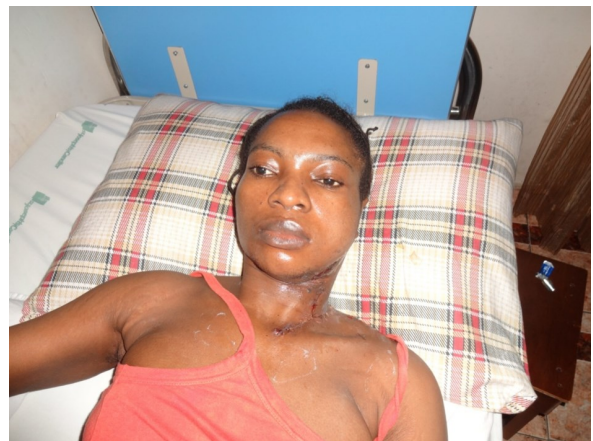


FIGURE 14: SHOWING THE PATIENT ABOUT TO BE DISCHARGED FROM THE HOSPITAL AFTER REMOVAL OF THE STITCHES

DISCUSSION

In our study parotid tumors consisted 1.6 % of all the head and neck tumors seen within the study period. Several studies done on salivary gland tumors have reported prevalence of 6.3% in Tanzania, 6.3% in Nigeria, 9% in Uganda, 3% in Kenya while UK had a prevalence of 13.7%⁷⁻¹¹. Among salivary gland tumours 70 to 80 % usually occur in the parotid gland^{12, 13} and most series have documented that the parotid gland was the most affected with salivary gland tumours^{10, 11, 14, 15, 16}.

Majority of our patients presented to us with parotid gland tumours in their 3rd and 4th decades (table 1) which agrees with the age range found in several studies carried out in Nigeria, China and Tanzania^{7, 16, 17, 18}. However, a study done in the United Kingdom noted a much older age group (mean age = 60 yrs)¹¹. There was a slight male preponderance in our study population which differs from previous studies done in Nigeria, UK, Uganda and Kenya^{9, 10, 11, 19}. Equal gender distribution was recorded in Pakistan and Brazil^{20, 21} while, in Tanzania and in some centres in Nigeria there were more males^{7, 17, 18}.

The predominant mode of presentation found in our study was a firm to soft pre-auricular swelling (figure 1) which agrees with the findings of most researchers Worldwide^{7, 20, 22}. None in our series presented with features of facial nerve impairment preoperatively. A few of our patients had HIV infection and were co-managed with the hematologist and physicians in our centers. It is not unusual to find patients with parotid tumours with Human Immunodeficiency Virus²³. The commonest histopathological diagnosis we encountered was pleomorphic adenoma (figure 2). Literature is awash with studies that confirmed pleomorphic adenoma as the commonest salivary gland tumour irrespective of the type of salivary gland involved.

However, mucoepidermoid and adenocystic carcinomas has predilection for some types of salivary gland tumours^{22, 24}.

The majority of patients had superficial parotidectomy. Only 3 patients had total parotidectomy. The commonest complication we encountered was transient facial nerve palsy which agrees with the findings in Lagos²². Not only that, we encountered tumour recurrence in 4 of our patients. Tumour recurrence or residual tumour has been documented by Ezanolue in Enugu where he found some of his patients presenting with recurrence and residual tumors after effective surgical treatment²⁵.

One of our patients who had total parotidectomy with reconstruction of the skin around the parotid area with a bilobed random transposition flap was found to have adenocystic carcinoma (figure 9-14) and she is among those yet to have radiotherapy due to equipment failure and poverty.

CONCLUSION

Employing existing standards of treatment, our experience is comparable to the experience of other researchers found elsewhere in the World^{1, 2, 7, 10, 11, 26-29}. Pleomorphic adenoma was the commonest parotid salivary gland tumor that required surgery in our environment while the commonest post-surgical complication was transient facial nerve palsy.

However, to improve the outcome of management of patients with malignancies a standard and functional Radiotherapy facility should be readily available in all centers within the country to enhance cost effective patient management²⁸.

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