

Minor salivary gland tumours in Kaduna, Nigeria

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Abstract

Objective: To determine the incidence, clinical presentation and management of minor salivary gland tumours at the Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria.

Methods: Retrospective study of minor salivary gland tumours at Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria.

Results: The incidence of minor salivary gland tumours during a 15-year period was sixty-seven. There were 35(52.45%) benign and 32(42.76%) malignant tumours. Male: female ratio was 1.03:1. The commonest site was the palate. Majority of the patients were between the 3rd and 5th decades of life with duration of 2 weeks to 192 months. Surgical treatment was the commonest mode of treatment. The follow up period was poor with an overall recurrence rate of 4.48%.

Conclusion: Minor salivary gland tumours are rare. Follow-up in this environment is poor. There is a need to educate the patients about the importance of early presentation and recall visits.

Key words: Salivary glands, minor, tumour, treatment

Introduction

Salivary gland tumours are uncommon, accounting for about 2.7% of all jaw tumours.¹ Minor salivary gland tumours represents 17-18.7% of all salivary gland tumours^{2,3} and 1-2% of all tumours of the head and region.⁴ These tumours have essentially the same biological behaviors as their counterparts in the major salivary glands.⁵ Minor salivary glands are located throughout the mucosae of the upper aerodigestive tract.⁶

This is a report of minor salivary gland tumours seen at the Ahmadu Bello University Teaching Hospital, Kaduna, Nigeria.

Materials and Methods

The histopathologically confirmed minor salivary gland tumours were obtained from files covering the period from January 1985 to January 2000 at the Oral and Maxillofacial unit, Ahmadu Bello

University Teaching Hospital, Kaduna, Nigeria.

Results

A total of 67 cases of minor salivary gland tumours were seen during the period under review. Thirty-five (52.24%) were benign, while the remaining 32 (47.76%) were malignant tumours (Table 1). There was no apparent sex predilection with a male (n=34), female (n=33) ratio of 1.03:1. The commonest site was the palate (n=51,76.1%). Minor salivary gland tumours were most common (70.15%) in the 3rd to 5th decades of life (figure 1). The overall duration ranged from 2 weeks to 192 months (mean; 13.6 months, median; 12 months). The signs and symptoms varied greatly (Table 2). Forty-four cases (81.82%) had surgical treatment while the remaining, 11 had radiotherapy and one had radiotherapy + chemotherapy (Table 3). Follow-up period was from 1 to 15 years with an overall recurrence rate of 4.48%.

Of the 35 patients with benign tumours, 32 (91.4%) were pleomorphic adenoma while the remaining 3 (8.6%) were monomorphic, (one of these was an oxyphilic type). The male (n=19), female (n=16) ratio was 1.19 to 1.00. The ages range from 17 years to 60 years (mean 33.25 years and median 35 years) with a peak incidence (n=15, 42.3%) in the 4th decade. The most common site involved was the palate (n=31), followed by the buccal mucosa (n=3) and lip (n=1). The clinical features of the tumours varied, the commonest features being painless swellings. The median duration of symptoms was 24 months (range of 1 ½ months to 10 years).

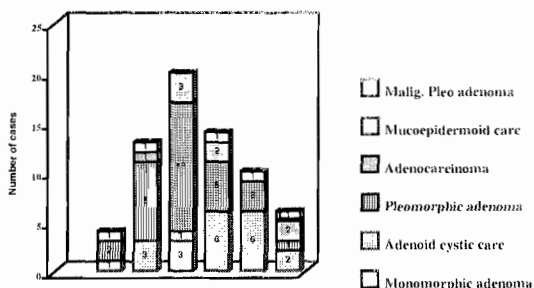
Local excision with normal mucosa was undertaken for the 35 cases. Follow-up period for 30 cases ranged from 1 year to 15 years (mean 7 years, medium 5 ½ years). No recurrent benign salivary tumour was encountered.

Of the 32 patients with malignant tumours, adenoid cystic carcinoma was the commonest histological type (n=19, 59.4%), followed by adenocarcinoma (n=8, 25%) muco-epidermoid carcinoma (n=4, 12.5%), malignant pleomorphic adenoma (n=1, 3.1%). The M:F ratio was 1:1.1 with an age range of 16 to 65 years (median 44.5 years) and a peak incidence in the 5th and 6th decades of life.

Table 1: Histopathologic classification of 67 minor salivary gland tumours

Classification	No. (%)
Benign Tumours	35
Pleomorphic adenoma	32 (47.8)
Monomorphic adenoma	3 (4.5)
Malignant tumours	32
Adenoid cystic carcinoma	19 (28.4)
Adenocarcinoma	8 (12)
Muco-epidermoid carcinoma	4 (6)
Malignant pleomorphic adenoma	1 (1.5)
Total	67 (100)

Figure 1: Age incidence of 67 cases of minor salivary gland tumours



The tumours affected the palate in 20 cases (62.5%), the alveolus in 9 (28.13%), (mandible n=6, maxillary tuberosity n=3) and the buccal mucosa in 3 cases (9.38%). Pain (n=21) and ulceration (n=19) were the most common presenting features. There were 6 metastatic lesions (5 loco-regional and 1 pulmonary). Duration of symptoms ranged from 2 weeks to 192 months (mean 22.3 months). Treatment protocol (Table 2) for malignant tumours was surgery (n=19), radiotherapy (n=11), chemotherapy

and radiotherapy (n=1). Suprahyoid neck dissection was undertaken in conjunction with primary surgery in three cases. Follow-up period for 15 of 32 cases was from 1 year to 14 years (mean of 8.97 years and median of 11 years). Of the groups treated with intent for cure (hemimaxillectomy, mandibulectomy + radiotherapy) 3 had recurrence representing 9.38% of the malignant tumours.

Table 2: Signs and symptoms of 67 minor salivary gland tumours

Sign/ Symptom	Benign			Malignant		
	Pleomorphic adenoma	Monomorphic adenoma	Mucoepithelioid tumour	Adenocarcinoma	Adenoid cystic carcinoma	Malignant pleomorphic adenoma
Painless swelling	23	1		2		
Painful swelling	3	2		15	6	
Slow growing	15	3	2	2	1	
Rapid growing	-	-	1	8	3	
Smooth	6	1	2	-	1	
Nodular	9	-	-	1	1	
Soft	9	-	-	5	-	-
Firm	21	3	-	5	5	-
Fluctuant/cystic	6	-	-	2	-	-
Fixed	-	1	2	3	4	-
Mobile	3	-	1	-	1	-
Ulceration	6	-	3	13	6	-
Bleeding	1	-	-	5	4	-
Metastatic	-	-	-	4	2	-

*A single case often had multiple signs and symptoms and not all the feature were recorded for each tumour.

Table 3: Treatment of minor salivary gland tumours in 67 patients

Type of tumor	Palatal local excision	Fenes- tration	Hemi- wide excision	Mandib- ulectomy	Maxil- ectomy	Radio- therapy	Radio- therapy + chemo- therapy
Pleomorphic adenoma	3	-	-	-	-	-	-
Monomorphic adenoma	3	-	-	-	-	-	-
Adenocarcinoma	-	1	1	1	2	3	-
Adenoid cystic carcinoma	-	1	-	2	5*	8	1
Mucoepidermoid tumour	-	1	1	-	1	-	-
Malignant pleomorphic adenoma	2	-	1**	-	-	-	-
Total	37	3	3	3	8	11	1

* One case had total maxillectomy while the remaining four had hemi-maxillectomy

** Had total maxillectomy

Discussion

The total and relative incidence of the minor salivary gland tumour varies greatly,^{1,7,8} an extensive search of the global literature on the subject by Fine and others⁹ revealed a total of 1,157 cases with an additional 79 cases of theirs. In this study, 67 cases accounted for 13% of total salivary gland tumours encountered during the period under review. This figure compares favourably with previous reports from the African series^{3, 10,11} but contrasts with the European reports.^{1,12,13}

Benign salivary gland tumours^{12,14} ranges from 13% to 57.6% while those of malignant tumours^{5,14} ranges from 36.8% to 87.0%. An incidence of 52.24% and 47.76% for the benign and malignant tumours in this report is in conformity with the world reports. This study confirms^{3,7,11,12} that pleomorphic adenoma remains the commonest benign salivary gland tumours, while the adenoid cystic carcinoma was the commonest malignant variety. A single malignant pleomorphic

adenoma in this study attests to the rarity^{9,13,15} of this tumour.

Overall, there was an equal sex distribution (M: F = 1.03:1.00) in contrasts to the male preponderance reported by other authors.^{13,16} In this series, benign tumours were more common in males than their female counterparts.

In line with the global picture,^{15,17,18} the palate was the commonest site. From this study there is a 50/50 chance of the palatal lesion being malignant or benign, however at other sites the risk of malignancy is higher. This is in contrast to Jones et al's¹⁵ reports that recorded no single benign tumour in the palate.

In this study, the average age of patients with benign tumours tends to be about 10 years younger than those with malignant tumours. Compared to their European counterparts, patients with malignant disease were found to be 20 years younger.^{13,17} In rural Nigeria, it is difficult to ascertain patient's true ages, as birth records are not routinely kept.

The duration compares with that

reported by others.^{6,7} The longest duration (192 months) was a case of malignant pleomorphic adenoma. Malignant degeneration is usually observed in a long-standing pleomorphic adenoma.¹³

However, patients with malignant tumours presented slightly earlier (12 months) than their benign counterparts because of the rapid growth, ulceration and pain.

The size of tumour did not point towards malignant or benign tumours, as it is a common occurrence for our patients to present with massive swelling. Ulceration is an uncommon feature in benign tumours. In this study ulceration of benign tumours was as a result of trauma from teeth, coarse foods and topical application of herbal medicines.

Surgical extirpation offers the best chance of cure. Extent of surgery was determined by tumour size rather than histological classification. Advanced unresectable malignant tumours were considered for radiotherapy and radiotherapy plus chemotherapy. Response of adenoid cystic carcinoma to radiotherapy remains controversial.^{2,19,20}

In our own opinion radiotherapy is useful in unresectable, inaccessible cases and also post-operatively to prevent local recurrence.

Suprahyoid neck dissection in conjunction with primary surgery is advocated only for cases with positive lymph nodes.

There was no recurrence for the benign tumours. Other authors^{7,9,21} have reported similar satisfactory results. Outcome of surgery in this study depended on the treatment philosophy which is wide circumscribing incision with about 3 - 5mm margin of apparent normal tissue with overlying mucosa. Earlier high figures of recurrence recorded were results of simple but inadequate surgical procedures.

The recurrence rate of malignant tumours in this study was 9.38%; two adenoid cystic carcinoma and one adenocarcinoma. The cure rate for adenoid

cystic carcinoma is poor as it adopts a relentless course irrespective of the treatment protocol.^{15,16}

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