

Adenoma of the Intra-Oral Minor Salivary Glands: Clinicopathological Study in Aden

Saleh Y. Bin Yousf,¹ Mazen A. Bin Thabit², Ali M. Halboob¹

Abstract

Introduction: Intra-oral tumors are the most frequent among the rare minor salivary gland tumors. The palate was the most common site of involvement and usually at the junction between the hard and soft palate. The aim of this study was to determine the clinicopathological features of intra-oral minor salivary glands tumors in Al-Gumhoria teaching Hospital.

Methods: A retrospective study was done on all histopathological records of intra-oral minor salivary glands adenoma in Al-Gumhoria Teaching Hospital during the period of October 2003- July 2010. Variables analyzed were patient's age and gender, clinical manifestation and radiological findings as well as tumor location and type.

Result: All the 25 intra-oral minor salivary gland adenomas were painless, mobile and slowly growing tumor and 80.0% of them were located in the palate. Male to female ratio was 1:1.50, around half of the patients (56%) were in the 4th decade of their life and the mean age was 43.8 ± 0.9 years for male and 37.9 ± 2.3 years for female patients. Pleomorphic adenoma was the most common tumor and the majority (92%) was treated by enucleation of the tumor.

Conclusion: Pleomorphic adenoma was the most common tumor and the palate was the most commonly affected site. Females had more tendency of intra-oral minor salivary gland adenoma with a younger mean age than male patients.

Keywords: Benign Tumor, Pleomorphic Adenoma, Al-Gumhoria Hospital, Yemen.

¹Oral and maxillofacial Surgery Department, Faculty of Dentist, University of Aden, Republic of Yemen.

²Pathology Department, Faculty of Medicine and Health Sciences, University of Aden, Republic of Yemen.

Corresponding Author: Saleh Y. Bin Yousf

Email: drsaleh.yahia@gmail.com

أورام الغدة اللعابية الصغرى داخل الفم: دراسة سريرية – باثولوجيه في عدن

صالح يحيى بن يوسف¹، مازن عبود بن ثابت²، علي منصر حلبوب¹

ملخص الدراسة

المقدمة: الأورام داخل الفم هي الأكثر شيوعاً بين أورام الغدة اللعابية الصغرى النادرة. النسبة الأكبر من هذه الأورام تقع في الحنك وعادةً عند التقاطع بين الحنك الصلب واللين. وتهدف هذه الدراسة إلى تحديد الخصائص السريرية – الباثولوجيه لأورام الغدة اللعابية الصغرى داخل الفم بمستشفى الجمهورية التعليمي.

المنهجية: من خلال دراسة استرجاعية، تمت مراجعة كل الملفات الطبية لجميع حالات أورام الغدة اللعابية الصغرى داخل الفم في مستشفى الجمهورية التعليمي خلال الفترة من أكتوبر 2003 إلى يوليو 2010 وتم استخراج البيانات التي تتعلق بعمر المريض وجنسه والمظاهر السريرية والنتائج الإشعاعية وكذلك موقع الورم ونوعه.

النتائج: كانت جميع حالات أورام الغدة اللعابية الصغرى داخل الفم غير مؤلمة، ومتحركة وتنمو ببطء ويقع 80.0% منها في الحنك. نسبة الذكور إلى الإناث 1: 1.50، وحوالي نصف المرضى (56%) في العقد الرابع من العمر وكان متوسط العمر 43.8 ± 0.9 سنة للذكور و 37.9 ± 2.3 سنة للإناث. كان الورم متعدد الأشكال هو الورم الأكثر شيوعاً وتم علاج غالبية الحالات (92%) عن طريق استئصال الورم.

الاستنتاج: الورم متعدد الأشكال هو الأكثر شيوعاً بين أورام الغدة اللعابية الصغرى داخل الفم والحنك هو أكثر المواقع إصابة. وقد شوهد الورم أكثر بين الإناث مع متوسط عمر أصغر للإصابة عند الإناث مقارنة بالذكور.

الكلمات المفتاحية: الورم الحميد، الورم متعدد الأشكال، مستشفى الجمهورية، اليمن.

¹ قسم جراحة الفم والوجه والفكين، كلية طب الأسنان، جامعة عدن، الجمهورية اليمنية.
² قسم علم الأمراض، كلية الطب والعلوم الصحية، جامعة عدن، الجمهورية اليمنية.

Introduction

Salivary gland tumors are a heterogeneous and rare group of lesions, especially when affecting the minor salivary glands [1]. Minor salivary gland tumors are very rare representing about 10-20% and less than 25% of all salivary gland and intraoral salivary tumors respectively. They have distinct characteristics, especially regarding frequency, distribution, and clinical aspects [2-4]. The palate has been cited as the most common site for minor salivary gland tumors, with reported prevalence up to 75%. Other anatomical sites involved are the lips (4-21%), oral mucosa (5-16%), tongue/floor of mouth (4-12%), as well as retro-molar area (3-7%) [1,5-7].

Salivary gland tumors can affect patients at any age and affect more females [1,2,6,8]. Intraoral swelling with or without ulceration was the most frequent sign and symptom of minor salivary gland tumors. Ill-fitting dentures, change in sensation and difficulty in speech were relatively uncommon [1,4-6]. Radiographically, salivary gland adenoma of the palate appears as well demarcated ovoid and is Odense mass, shows faint contrast enhancement [9] while, histologically most of the benign intra oral salivary gland tumors are pleomorphic adenoma and around 20% of them are monomorphic adenoma [1,2,5,8]. Wide excision with safe negative margin is the optimal strategy for the management of pleomorphic adenoma of the palate [5,8].

This study aimed to determine the clinicopathological features of intra-oral minor salivary glands tumors in Al-Gumhoria Teaching Hospital.

Methods

A retrospective study of intra-oral minor salivary glands tumor was performed on a total of 105 patients with salivary gland tumors diagnosed and operated in the department of the maxillo-facial surgery at Al-Gumhoria Teaching Hospital during the period October 2003 - July 2010.

Data regarding patient's age, gender, clinical manifestation and radiological findings as well as tumor site, histology and type of treatment were retrieved from the medical files. Tumor histopathologic type was evaluated according to the 2005 World Health Organization (WHO) salivary gland tumor classification [10]. Data were entered and analyzed using the Statistical Package for Social Sciences software version 22 (SPSS Incorporation, Chicago, IL, USA). Variables were presented as proportions or means.

Results

Of the total 105 cases of salivary gland tumors diagnosed and operated during October 2003 and July 2011, only 25 (23.8%) were intra-oral minor salivary glands tumor as shown in Figure 1.

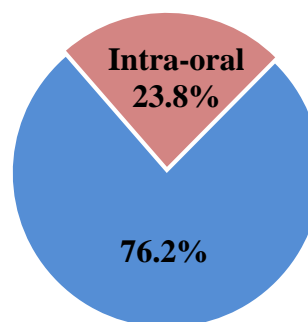


Figure 1: Intra-Oral Salivary Glands Tumor

Females constituted 60% of patients with an overall male to female ratio of 1:1.50. Females had younger mean age compared to males (37.9 ± 2.3 vs. 43.8 ± 0.9 years) as shown in Table 1.

Table 1: Characteristics of Patients with Intra-Oral Minor Salivary Glands Adenoma (n=25)

Characteristics	No.	%
Age (years)		
< 40 years	6	24
40-< 50 years	14	56
50+ years	5	20
Mean age=	40.8±1.2 years	
Sex		
Male	10	40
Female	15	60

Most of the intra-oral cases (20 of 25) were located in the palate while the remaining were distributed between the lips (4 of 25) and the check mucosa (1 of 25) as illustrated in Figure 2.

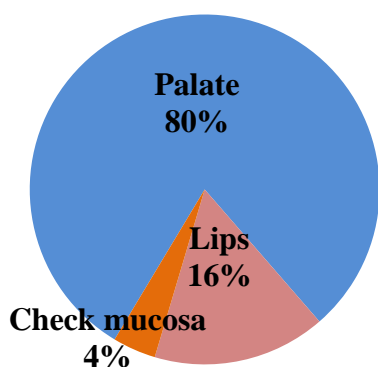


Figure 2: Location of Intra Oral Salivary Glands Tumor

Regarding the clinical presentation of the patients at the time of diagnosis, Table (2) reveals that patients presented with slow growing, painless and mobile mass. Eighty-eight percent had tumor size of more than 1.5 up to less than 3 cm dimension and only 8% of the patients came with superficial ulceration at the time of diagnosis.

Table 2: Clinical Presentation of the Intra-Oral Minor Salivary Glands Adenoma (n=25)

Patients' presentation	No.	%
Nature of mass growing		
Slow	25	100.0
Rapid	0	00.0
Presence of Pain		
Painless	25	100.0
Painful	0	00.0
Size of the mass		
≤1.5 cm	2	8.0
1.5 - <3 cm	22	88.0
≤3 cm	1	4.0
Presence of ulcer		
Yes	2	8.0
No	23	92.0
Mobility of the mass		
Mobile	25	100.0
Fixed	0	00.0

Table (3) shows that, the majority (92%) of the tumors appears by computed tomography scan (CT scan) as well demarcated isodense mass without bone erosion. Histologically, Table (3) also reveals that, the majority of the tumors (88%) were benign mixed tumor (pleomorphic adenoma) and among the remaining three monomorphic adenomas, two cases were basal and one was trabecular monomorphic adenoma.

Table 3: Radiographic and Histologic Findings of the Intra-Oral Minor Salivary Glands Adenoma (n=25)

Findings	No.	%
Radiographic findings by CT scan		
Bone erosion	2	8.0
No erosion	23	92.0
Histology findings		
Pleomorphic adenoma	22	88.0
Monomorphic adenoma	3	12.0

The majority of the patients (92%) were treated by local excision (enucleation) and only 8% were

treated with wide local excision and no recurrence during 3 years of follow up was reported, (Figure 3)

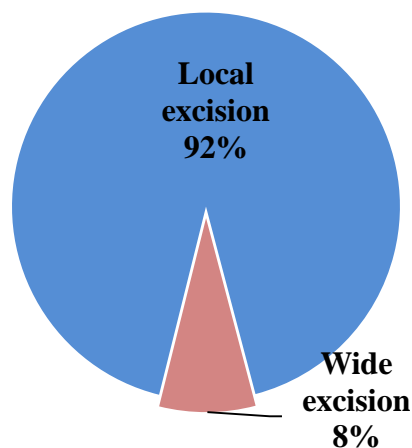


Figure 3: Procedure of Surgical Treatment

Discussion

To the present time, little data are available on the clinic-pathologic presentation of intra-oral minor salivary glands adenoma in Yemen. We studied this type of tumor in Al-Gumhoria Teaching Hospital during a period of seven years. Around one quarter of all reported minor salivary glands adenoma were intra-oral. Similar figures were reported by other authors in Baltimore (USA) [11], Brazil [12], Nigeria [13], and Iran [14].

The palate was the most common site of involvement in the present findings (80.0%). This finding is in agreement with studies performed in Brazil [12], Japan [15] and China [16]. Our results also showed that the lips (16.0%) and check mucosa (4.0%) were the next sites. On the other hand, the tongue (8.5%) and jaws (7.3%) were the next

sites in Shiraz, Iran as reported by Ashkavandi *et al* in 2011 [14].

According to WHO [10], female patients are slightly more affected than males. In the current study; male to female ratio was 1:1.50 which is in accordance with the WHO and what was found also in many other studies performed in Libya [5], Brazil [12], Iran [14] and China [16].

The peak prevalence of tumors occurred in the fourth decade of our patients' life, with an overall mean age of 40.8 ± 1.2 years. Nearly similar patients' mean age (40.7 years) and (44.2 years) was reported by Wang *et al* [16] and Jaber [5] respectively, while higher mean age was mentioned by Toida *et al* (51.4 ± 18.1 years) in Japan [15].

Most epidemiological studies clearly show that pleomorphic adenoma is by far the most common salivary gland tumor [1-6,12-15]. In the current study, similar figure was found with pleomorphic adenoma percentage of 88% all tumors. Signs and symptoms of the tumor can be related to tumor size and may vary according to tumor site. Painless intra-oral swelling without ulceration was the most frequent sign and symptom of the tumor in the present study and a similar clinical presentation found in Tamil Nadu – India [6]. Regarding the mass size at the time of diagnosis, the present finding was within the range of most of the reported results in the literatures [1-3,6,7,11-15].

Diagnosis of minor salivary gland tumor mostly confirmed by post operation biopsy and histopathology. A complementary test, including CT, is the most widely used technique, either alone or with pre-operative biopsy of fine needle aspiration

cytology [9,16]. The accuracy of diagnostic fine needle aspiration cytology (FNAC) reaches up to 91.6% according to Cerulli *et al* study [17]. However, FNAC is very important pre-operative test to differentiate between benign and malignant lesion and so it might guide the further approach of treatment, as well as pre-operative CT may determine the size of the lesion and bone erosion and soft tissue or nerve involvement if any before surgical excision [6].

Limitations

There is a number of limitations in this study, which include:

1. It is based on retrospective retrieving of the already available data on the patients' files which always associated with a number of drawbacks.
2. The limited number of the cases.
3. The data in the study were collected during an old period.

Conclusion

Pleomorphic adenoma was the most common tumor and the palate was the most commonly affected site. Females had more tendency for intra-oral minor salivary gland adenoma with a younger mean age than male patients.

References

1. Pires FR, Pringle GA, de Almeida OP, Chen SY. Intra-oral minor salivary gland tumors: a clinicopathological study of 546 cases. *Oral Oncol* 2007; 43(5): 463-70.
2. Guzzo M, Locati LD, Prott FJ, Gatta G, McGurk M, Licitra L. Major and minor salivary gland tumors. *Crit Rev Oncol Hematol* 2010;74(2):134-48.
3. Al-Khateeb TH, Ababneh KT. Salivary tumors in north Jordanians: a descriptive study. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007;103(5): e53-9.
4. Ansari MH. Salivary gland tumors in an Iranian population: a retrospective study of 130 cases. *J Oral Maxillofac Surg* 2007;65(11): 2187-94.
5. Jaber MA. Intraoral minor salivary gland tumors: a review of 75 cases in a Libyan population. *Int J Oral Maxillofac Surg* 2006;35(2):150-4.
6. Ramesh M, Krishnan R, Paul G. Intraoral minor salivary gland tumors: a retrospective study from a dental and maxillofacial surgery centre in Salem, Tamil Nadu. *J Maxillofac Oral Surg* 2014;13(2): 104-8.
7. Mishra S, Mishra YC. Minor salivary gland tumors in the Indian population: A series of cases over a ten-year period. *J Oral Biol Craniofac Res* 2014;4(3): 174-80.
8. Tian Z, Li L, Wang L, Hu Y, Li J. Salivary gland neoplasms in oral and maxillofacial regions: a 23-year retrospective study of 6982 cases in an eastern Chinese population. *Int J Oral Maxillofac Surg* 2010;39(3):235-42.
9. Hiwatashi A, Matsumoto S, Kamoi I, Yamashita H, Nakashima A. Imaging feature of myoepithelioma arising from the hard palate. *Acta Radiologica* 2003;41(5):417-9.
10. Barnes L, Eveson JW, Reichart P, Sidransky D. World Health Organization classification of tumours. Pathology and genetics—head and neck tumors. Lyon: IARC Press; 2005.

11. Jansisyanont P, Blanchaert Jr RH, Ord RA. Intraoral minor salivary gland neoplasm: a single institution experience of 80 cases. *Int J Oral Maxillofac Surg* 2002; 31(3): 257-61.
12. Ito FA, Ito K, Vargas PA, de Almeida OP, Lopes MA. Salivary gland tumors in a Brazilian population: a retrospective study of 496 cases. *Int J Oral Maxillofac Surg* 2005;34(5): 533-6.
13. Adeyemi BF1, Ogun GO, Akang EE. Retrospective analysis of intra-oral salivary gland tumors in Ibadan, Nigeria. *West Afr J Med* 2010;29(2):98-103.
14. Ashkavandi ZJ, Ashraf MJ, Fandak NA. A clinicopathologic study of 82 intra oral minor salivary gland tumor. *Iran Red Crescent Med* 2011;13(9):674-7.
15. Toide M, Shimokawa K, Makita H, Kato K, Kobayashi A, Kusunoki Y, *et al.* Intra-oral Minor Salivary Gland Tumors: A clinicopathological study of 82 cases. *Int J Oral Maxillofac surg* 2005;34(5): 528-32.
16. Wang D, Li Y, He H, Liu L, Wu L, He Z. Intraoral minor salivary gland tumors in a Chinese population: a retrospective study on 737 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007;104(1):94-100.
17. Cerulli G, Renzi G, Perugini M, Becelli. Differential diagnosis between adenoid cystic carcinoma and pleomorphic adenoma of the minor salivary gland of palate. *J Craniofac Surg* 2004; 15(6): 1056-60.