

Prevalence of Non-specific Chronic Inflammatory Fibromas among Dental Patients Attending Dental OPD Bahawal Victoria Hospital and its Oral Surgery Management

MUHAMMAD SAFDAR BAIG¹, JAVID IQBAL², MUHAMMAD AMJAD BARI³, IRSHAD AHMED⁴

¹Assist Professor Oral & Dental Surgery BVH/QMC Bahawalpur, ²Professor of Surgery and Director Department of Medical Education, Quaid-e-Azam Medical College and Bahawal Victoria Hospital Bahawalpur, ³Assistant Professor, Nishtar Institute of Dentistry Multan, ⁴Assistant Professor of Pathology, Dow University of Health & Sciences Karachi

Correspondence: Dr. Muhammad Safdar Baig, Email: safdarbeg@gmail.com

ABSTRACT

Background: It has been observed in routine oral & dental surgery practice the incidence of many soft tissue lesions of the oral cavity which look like a tumor growth. Most of these lesions on surgical excision and afterwards their biopsies are basically indentified as non-specific chronic inflammatory in nature and categorized as the fibrous lesion called fibromas of oral cavity. Some of these lesions are vascular in nature and some pyogenic granulomas while few are giant cell types.

Objective: To determine hospital based prevalence of different soft tissues like growth of oral cavity among routine oral and dental surgery patients attending Dental OPD Bahawal Victoria Hospital, Bahawalpur and its oral surgery management.

Patients and Methods: This study is based upon the available hospital records of 113 dental minor oral surgery patients presenting with exophytic fibrous lesion like tumors as local irritation fibromas, fibro epithelial oral mucosal hyperplasia, gingival epulis and pyogenic granuloma presenting as non-specific chronic inflammatory fibrous gingival growth. The main variables of interests were the patient's age, sex, location of the tumor in oral cavity and its surgical management along with patients clinical history and the risk factors identified.

Results: Out of 113 patients hospital records 65 (58.05%) were of the fibrous nature (Fibromas), 48 (42.45%) were of bleeding tendencies in nature. Most of the lesions were on the gingival areas 95 (84%) rest of the lesions on the buccal mucoa, palate, tongue and lips. All the lesions were surgically excised and performed electrocautary where needed along with removal of the local irritating cause as well followed with histopathological reports.

Conclusion: The role of dental professional for the early detection of such inflammatory lesions in the oral cavity can't be ignored along with prerequisite knowledge about the clinical history and their presentation in oral cavity for these most frequent lesions. There is need for excisional biopsies for their prevention and control to counter them in the early stage of their development for patient's better prognosis and to avoid these lesions recurrence.

Key words: Prevalence, Non-specific chronic inflammatory fibromas, Dental patients, Oral Surgery

INTRODUCTION

Oral epidemiological data for the prevalence of oral lesions have very significant importance in each study setting for their early detection and surgical management to minimize further complication of oral and maxillofacial region for better prognosis. Knowledge about the prevalence of these most frequent oral cavity fibromas along with their clinical presentation is very beneficial to encounter them in routine outdoor practice for the oral and dental surgeons.¹ The term reactive oral mucosal hyperplasia also denote the fibrous lesions which

usually occur due to the result of local irritation or injury to oral epithelium as proliferative lesions like exophytic growth.² Another type of such lesions are the pyogenic granulomas which are most often present on the gums of pregnant ladies and patients with poor oral hygiene with their most favourite sites on the lower jaw gums, buccal oral mucosa, lips and tounge.³ From the results of the scientific studies the prevalence of these local hyperplastic lesions of the oral mucosa are different from each other depending upon the site of their development along with patients age and

gender as the giant cell granuloma most commonality occur among males before the age of 40 years and usually on the lower jaw gums.⁴

The oral mucosal lesions with bleeding tendencies are soft, spongy and vascular in nature, while the fibrous chronic inflammatory lesions of oral cavity are mostly sessile and some pedunculated and can appear on any oral mucosal site, one such lesion occurring on the gums/gingiva is also called the epulis.⁵ Most of these lesions usually remain small in size and very rare on the masticatory oral mucosa like cheek, tongue or floor of mouth. These lesions most often occur due to the ill fitting dentures which comes across the oral mucosa as local irritating factor.⁶ The other important etiological factors for oral mucosal fibromas include chronic local irritation due to dental plaque and calculus, grossly carious sharp edges of teeth, food impaction in periodontal pockets and the contributory systemic or hormonal conditions of the patients.⁷

The oral surgery literature review reveals some controversies about the results from different part of the world and it was not possible to evaluate all the reactive hyperplastic oral cavity lesions in a study.⁸ There is lack of epidemiological studies in our settings, so the rationale of our study was to determine the hospital base incidence of the oral cavity fibromas at department of Oral & Dental Surgery, Bahawal Victoria Hospital a tertiary care hospital attached with the Quaid-e-Azam Medical College, Bahawalpur in Southern Punjab Pakistan. We have tried to come up with the incidence of oral fibromas and to identify the most common risk factors along with common sites in oral cavity. Although, the results of this study may serve the baseline data for further studies in this part of the country to put forward suggestion for improvement on this aspect of oral and dental surgery.

PATIENTS AND METHODS

The study subjects consists of the routine general dentistry patients attending department of oral and dental surgery, Bahawal Victoria Hospital, a tertiary care hospital attached with the Quaid-e-Azam Medical College, Bahawalpur, Southern Punjab, Pakistan who have some history of oral lesion and gave us their informed verbal consent to be part of the study. All the consecutive patients who were willing to go through their oral surgical process with excisional biopsy were enrolled in the study the data presented in this paper consists of the patients who came to us with follow up along

with their biopsies reports from 2012 to 2015. The biopsy reports were mostly carried out at our own institution department of pathology while some of the affording patients also went out side the hospital for their biopsies. The fibrous lesions mostly consists of the collagen fibers connective tissues labeled as non-specific chronic inflammatory oral cavity mucosa epulis, fibromas, ossifying fibromas, very few squamous papillomas and mixofibromas etc. While the soft tissue, spongy and hemorrhagic lesions were histopathologically labelled as the pyogenic granulomas, among pregnant ladies mostly were the pregnancy tumors and very few giant cell granulomas etc.

Study subjects clinical history along with demographic variables were also recorded like age, gender, area of residence, site of the oral cavity lesions and the maxilla and mandible site as well. Similarly, the sites of the lesions on lips, palate, tongue, oral buccal mucosa, floor of the mouth, gingival areas were properly recorded and size of the lesions. All such lesions were treated with patients and family informed consent by surgical excision followed by use of electrocautery in the main operation theatre mostly under local anaesthesia followed by its histopathological examinations as day care surgery. Patients were also given at least one day Zinc Oxide Eugenol gauze dressing for the healing & soothing effect and initially to arrest any chance of bleeding at home along with broad spectrum antibiotic for aerobic and anerobic cover along with analgesics and anti inflammatory drugs mostly provided to the patients, available at our hospital outdoor hospital dispensary.

The prevalence of the non-specific oral cavity lesions was determined based on the number of the lesions observed along with its percentages shown in the fig although follow up of the patients was carried out as outdoor patients in the next 24 to 48 hours, but due to poor patients compliance, the history of the recurrence reported from patients follow up is not reliable. It is important to mention here, with no history of recurrence and no history of malignancy histopathological report. The data was recorded in a structured questionnaire, which was later on entered into SPSS version 20.0 and analyzed to generate frequency tables along with lesions absolute numbers and its corresponding percentages with respect lesion type, site and location in the oral cavity. History of few risk factors, like use of tobacco, naswar (chewable

tobacco), patients age, gender were also analyze through chi-square as the test of significance at alpha 0.05 percent.

RESULTS

Out of total study patients who came for their follow up with their oral lesions biopsies were 113 an estimated figure of about 17% loss to follow up after their surgeries according to our hospital records, this data has been excluded in the results of our study. The male to female study subjects ratio was 53 (47%) male and 60 (53%) female and 41(36.28%) were from the urban areas while 72 (63.71%) were from the rural areas with very poor oral hygiene with abundance accumulation of plaque and calculus with almost no previous history to visit to dentist and history of selfcure acrylic ill fitting dentures and long histories of faulty fillings as well from quacks. The study subjects age range from 9 to 78 years, with mean age of the study subjects 35.24 with standard deviation of 17.26 years. Out of total 113 oral cavity lesions 65 (57%) were of the fibrous nature (Fibromas), 48 (44%) were of bleeding tendencies in nature. Most of the lesions were on the gingival areas 95 (84%) rest of the lesions on the buccal mucosa, palate, tongue and lips. In our data set there was no statistically significant association between the age of the patients and the incidence of the any fibrous lesion i.e. the P value was greater than 0.05 percent, while there was a statistically significant association for the development of the sqamous papilomas with the advancing age as the p-value of the test as less than 0.05 percent. Similarly there was statistically significant association between age and the incidence of pregnancy related gingival tumors and the gingival epulis from our study results (Table 1). The most common reactive non-specific chronic inflammatory oral cavity lesion was determined 58 (51.32%) in the age group of from 09–78 years of age regardless of gender. While the firbro epithelial hyperplasia also called the gingival epulis mostly observed in relative younger age of 15–47 years of age 28 (24.77%). The incidence of pyogenic granuloma was almost evenly distributed from quite younger age to the older as well starting from 13 – 63 years mostly among the rural and slums areas population 25 (22.12)% particularly with poor oral hygiene with accumulation of plaque and calculus deposit on teeth. Peripheral giant cell granuloma was mostly seen in quite younger age group of 23–46 years but not so common hardly two cases out

of total 113 patients 02 (01.76%) [Table 2]. The incidence of the fibro epithelial hyperplasia was mostly determined among the females 18 (15.92%) while only 10 (08.84%) among the males, while most common chronic inflammatory type of the gingival hyperplasia was also seen in the highest figure of 36 (31.85%) among females and less common among males 22 (19.46%) but only two cases of peripheral giant cell granuloma only among males in our study data set. The incidence of pyogenic granuloma as almost equally prevalent among regardless of the gender as evident in the table 3. It is quite evident from the above table 3 that almost all of the fibromas of the oral cavity mostly occur on the gingival mucosa hardly 05 (04.42) of fibro-epthilial hyperplasia which also were seen on the oral buccal mucosa as well (Table 4). From the study results table No 4 and 5 it has been determined that Out of total 113 patients hospital records 65 (58.05%) were of the fibrous nature (Fibromas), 48 (42.45%) were of bleeding tendencies in nature (Table 5).

Table 1: Biopsy diagnosed lesion of the oral cavity according to age

Biopsy diagnose lesion	Age years	Observed no. with %age
Fibro epthilial hpyerplasia / epulis	15 – 47	28 (24.77%)
Pyogenic granulomas	13 – 63	
Inflammatory gingival hyperplasia	09 - 78	58 (51.32%)
Peripheral giant cell granulomas	23 - 46	02 (01.76%)
Total lesions		113

Table 2: Distribution of oral lesion with respect to gender No and percentages

Biopsy diagnose lesion	Male		Female	
	No.	%	No.	%
Fibro epthilial hyperplasia/epulis	10	8.84	18	15.92
Pyogenic granulomas	11	9.73	14	12.38
Inflammatory gingival hyperplasia	22	19.46	36	31.85
Peripheral giant cell granulomas	2	1.76	-	-

Table 3: Distribution of oral lesion with respect to oral cavity site observed No with percentages

Biopsy diagnose oral lesion	Gingival mucosa	Oral mucosa	Tongue
Fibro Epthilial hpyerplasia / Epulis	23 (20.35%)	5 (4.42)	-
Pyogenic granulomas	25 (22.12)%	-	-
Inflammatory gingival hyperplasia	58 (51.32%)	-	-
Peripheral giant cell granulomas	2 (1.76%)	-	-

DISCUSSION

The importance of oral and dental professionals for the early diagnosis and treatment planning for the most commonly occurring oral fibrous lesions in

the oral cavity cannot be rolled out for such lesions prevention and early controls for better prognosis to avoid future dentoalveolor complication for dental patients and their families suffering in our settings.⁹ This aspect of oral surgery put more emphasis on routine oral and dental surgery outdoor patients careful evaluation and the incidence data at our primary to tertiary care level oral and dental healthcare delivery systems.¹⁰ Our this study has been conducted at among the routine outdoor patients visiting at Bahawal Victoria Hosp a tertiary care hospital attached with the Quaid-e-Azam Medical College Bahawalpur, Southern Punjab, Pakistan. Out of all the such lesions excisional bisopies, we had follow up record of 113 patients with history of any sort of fibrous lesions of the oral cavity from June 2012 to June 2015, although this total number of the patients is relatively small as per out hospital record estimate about 17% of the patients loss to follow up with their biopsy reports.¹¹

Table 4: Distribution of soft tissue oral cavity lesions with respect to their site/location

Lesions site	Fibro Epthilial hpyerplasia / Epulis	Pyogenic granulomas	Inflammatory gingival hyperplasia	Peripheral giant cell granulomas	Total number with %age
Maxillary Gingiva	9	9	5	-	23 (20.35%)
Mandibular gingival	7	4	6	2	19 (16.81%)
Oral Mucosa	4	2	10	-	16 (14.15%)
Lips	2	-	2	-	04 (03.63%)
Tongue	-	-	3	-	03 (02.65%)
Total	22	15	26	02	65 (58.05%)

Table 5: Distribution of bleeding tendency oral cavity lesions

Lesions site	Fibro Epthilial hpyerplasia / Epulis	Pyogenic granulomas	Inflammatory gingival hyperplasia	Peripheral giant cell granulomas	Total number with %age
Maxillary Gingiva	7	3	4	-	14 (12.38%)
Mandibular gingival	13	1	5	-	19 (16.81%)
Oral Mucosa	6	2	4	-	12 (10.61%)
Lips	-	-	-	-	-
Tongue	1	-	2	-	03 (02.65%)
Total	27	6	15	-	48 (42.45%)

It is quite evident from the results of our study that among the soft tissue fibromas, the irritational fibroma was the most common lesion of the oral

cavity and from the hemorrhagic lesion; the pyogenic granulomas came out to be the most occurring tumor in our study settings. The fibrous

lesions usually occur in relative old age and from the literature search it is evident the fibrous lesions with bleeding tendencies are noticed in the fourth decade of life.¹² Our study this finding is in consistent with the findings of the other studies from India Iran as well, as documented majority of such lesions from 3rd to 4th decade of life.¹³ it is also documented that these begin lesions have no specific age and sex related prediction, while few studies results have shown a bit higher rate of incidence among females.¹⁴

From the results of our study which is over in consistent with results of other studies of Southeast Asian region that the incidence of chronic inflammatory gingival hyperplasia was the highest 58 (51.32%) among all age groups.¹⁵ while the reactive irritation fibromas and the localized gingival fibromas although can occur anywhere in the oral cavity, but from the results of our study it was found be more common on the mandibular buccal oral mucosa and relatively more common among the females.¹⁶ While on the other hand some studies results have shown no marked difference on the maxilla and mandible as well.^{17, 18} The pyogenic granuloma is the second most common tumor like growth of the oral cavity, mostly occurring on the gingivae regardless of age and gender, it has been noticed most commonly among younger age children and the young adults. Most common site of its occurrence is the buccal oral mucosa on the teeth bite line from 3rd to 4th decade of life.¹⁹ It is also thought to be most hemorrhagic in nature, this finding in also on consistent with many other finding of such studies from our region.^{20, 21}

CONCLUSION

From the results of our study, we have tried to provide incidence of oral mucosal lesions information among general dental patients attending routine outdoor healthcare facility in a tertiary care hospital from southern Punjab, Pakistan. The results of this would definitely be beneficial about the occurrence of non-specific oral mucosal fibrous lesions in our settings as these tumors like mass are mostly benign in nature, but if left untreated, becomes source of dentoalveolar deformities later on. It is very important that the general practitioner in oral and dental surgery be familiar with the clinical history, oral cavity presentation and its minor oral surgery management as well at the same time its prime responsibility of the oral health professional to

differentiate these innocuous lesions from the malignant lesions occurring in the oral cavity. The common risk factors responsible for these lesions for public awareness and its prevention and control is also another aspect of public health importance to put forward suggestion for stake holder and policy makers in our setting and we hope the results of this study would serve as a baseline for further nationwide campaign about such oral lesions in our country.

REFERENCES

1. Reddy V, Saxena S, Saxena S, Reddy M. Reactive hyperplastic lesions of the oral cavity:A ten year observational study on North Indian Population. *J Clin Exp Dent* 2012; 4:e136-40.
2. Effiom OA, Adeyemo WL, Soyele OO. Focal Reactive lesions of the Gingiva:An Analysis of 314 cases at a tertiary Health Institution in Nigeria. *Niger Med J* 2011; 52:35-40.
3. Neville BW, Damm D, Allen CM, Bouquet JE. *Oral Maxil-Ofacial Pathology*, 3rd ed. St. Louis: Saunders; 2009: 506-23.
4. Gungormus M, Akgul HM. Central giant cell granuloma of the jaws: a clinical and radiologic study. *J Contemp Dent Pract* 2003; 4: 87-97.
5. Buchner A, Shnaiderman-Shapiro A, Vered M. Relative frequency of localized reactive hyperplastic lesions of the gingiva:A retrospective study of 1675 cases from Israel. *J Oral Pathol Med* 2010;39:631-8.
6. Jahanbani, J., Sandvik, L., Lyberg, T., Ahlfors, E., 2009. Evaluation of oral mucosal lesions in 598 referred Iranian patients. *Open Dent. J.* 3, 42–47.
7. Ezirganl S, Tasdemir U, Goze F, Kara M, Polat S, Muderris S. Intraoral localized reactive hyperplastic lesions in Sivas. *ACU Saglık Bil Derg* 2014;5:43-7.
8. Amirchaghmaghi M, Mohtasham N, Mosannen Mozafari P, Dalirsani Z. Survey of reactive hyperplastic lesions of the oral cavity in Mashhad, Northeast Iran. *J Dent Res Dent Clin Dent Prospects* 2011; 5:128-31.
9. Pindborg JJ. Atlas of diseases of the oral mucosa. 5th ed. Copenhagen: Munksgaard; 1992. p. 196-238.
10. Kleinman DV, Swango PA, Niessen LC. Epidemiological studies of oral mucosal conditions- methodological issues. *Community Dent Oral Epidemiol* 1991;19:129-40.

11. Saraswathi TR, Ranganathan K, Shanmugam S, Ramesh S, Narasimhan PD, Gunaseelan R. Prevalence of oral lesions in relation to habits: Cross-sectional study in South India. *Ind J Dent Res* 2006; 17:121-5.
12. Kashyap B, Reddy PS, Nalini P. Reactive lesions of oral cavity: A survey of 100 cases in Eluru, West Godavari district. *Contemp Clin Dent* 2012;3:294-7.
13. Ezirganli S, Tasdemir U, Goze F, Kara M, Polat S, Muderris S. Intraoral localized reactive hyperplastic lesions in Sivas. *ACU Saglik Bil Derg* 2014;5:43-7.
14. Amirchaghmaghi M, Mohtasham N, Mosannen Mozafari P, Dalirsani Z. Survey of reactive hyperplastic lesions of the oral cavity in Mashhad, Northeast Iran. *J Dent Res Dent Clin Dent Prospects* 2011; 5:128-31.
15. Rajendran R, Sivapathasundharam B. *Shafer's Textbook of Oral Pathology*. 7th ed. India: Elsevier; 2007. p. 543-8.
16. Janosi K, Popsor S, Ormenisan A, Martha K. Comparative study of hyperplastic lesions of the oral mucosa. *Eur Sci J* 2013;9:7-15.
17. Mathur LK, Bhalodi AP, Manohar B, Bhatia A, Rai N, Mathur A. Focal fibrous hyperplasia: A case report. *Int J Dent Clin* 2010; 2:56-7.
18. Eversole LR. Benign tumors of the oral cavity. *Burket's Oral Medicine Diagnosis and Treatment*. 10th ed. St. Louis, Mo: Elsevier; 2011. p. 137-9.
19. Neville BW, Damm DD, Allen CM. *Oral & Maxillofacial Pathology*. 2nd ed. Philadelphia: W. B Saunders; 2001. p. 451-2.
20. Zhang W, Chen Y, An Z, Geng N, Bao D. Reactive gingival lesions: A retrospective study of 2,439 cases. *Quintessence Int* 2007; 38:103-10.
21. Reddy V, Saxena S, Saxena S, Reddy M. Reactive hyperplastic lesions of the oral cavity: A ten year observational study on North Indian Population. *J Clin Exp Dent* 2012; 4:e136-40.