ORIGINAL ARTICLE

A CLINICOPATHOLOGICAL STUDY OF THE REACTIVE HYPERPLASTIC LESIONS OF ORAL MUCOSA

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ABSTRACT

Reactive hyperplastic lesions are tissue growths which occur due to injury or trauma to the soft tissue most frequently and occur commonly in oral cavity. These reactive lesions are classified as fibrous hyperplasia, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell granuloma. Aim of the present study was to find out the frequently occurring reactive hyperplastic lesions, its histopathology and site distribution. The study groups were 112 patients of known reactive hyperplastic lesions in 2 years duration. This descriptive retrospective study took place in the department of oral and maxillofacial surgery. According to the results the female / male ratio was 1.38: 1. The commonest site of these lesions was the gingiva (42%). 4th decade of life had been common age pattern of reactive hyperplastic lesions i.e., 41.7 ±19.4 SD. The most common reactive hyperplastic lesions were pyogenic granulomas (53%).

Key Words: *Pyogenic granuloma, peripheral ossifying fibroma, fibrous hyperplasia, Khyber College of Dentistry.*

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INTRODUCTION

Reactive hyperplastic lesions of oral cavity range from inflammatory, developmental, neoplastic and reactive lesions which are due to the environmental factors like internal and external stimuli which constantly affects the oral mucosa.[1] The clinicopathological picture of these hyperplastic reactive lesions are in the form of solitary, reactive swellings which occur due to reactive and chronic tissue injury which leads to extreme and exaggerated response to tissue.[2] These lesions of the oral cavity could result from chronic low intensity irritation that will stimulate the tissues, as a result there is an exaggerated response to the tissues which leads to the formation of granulation tissues which consists of chronic inflammatory cells, endothelial cells and proliferation of fibroblasts, Enlargement of the soft tissues is called reactive hyperplastic lesion.[3] Low grade injury or irritation of the tissues may be from food impaction, chewing, iatrogenic injuries, dental restorations which include overhanging restorations ,broken teeth and extended flanges of denture.[4] Reactive hyperplastic lesions consist of pyogenic granuloma, inflamed fibrous hyperplastic lesion, peripheral ossifying fibroma, giants cell fibroma, cement ossifying fibromas.[5] Other hyperplastic lesions include inflammatory papillary hyperplasia, denture induced hyperplasia, gingival hyperplasia, fibro epithelial polyp, epulis fissuratum , fibrous hyperplasia of inflammatory origin.[6]

These reactive and hyperplastic lesions are most frequently found on gingiva. They may appear in the form of flaccid or fibrous growth, red in colour, pedunculated or sessile. They may be symptomless or there may be bleeding or little pain. The gingival tissues are more prone to chronic irritation and to hormonal change during pregnancy.[7]

Histopathological finding are very important to find the appropriate diagnosis and to plan an appropriate treatment to avoid any recurrence. The aim of the present study was to determine the frequency of reactive hyperplastic lesions on the basis of clinical pathology, and to compare the results with the previous studies.

METHODOLOGY

This descriptive retrospective study was done in the department of oral and maxillofacial surgery Khyber College of Dentistry The Department/Hospital review board approval was taken. The duration of the study was of 2 years i.e., from 1st January 2017 to 1st January

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2019. After taking ethical approval from the Board the records of the patients were retrieved from the outpatient department and reviewed from the mentioned period. Cases which showed histopathological diagnosis of the reactive hyperplastic lesions were retrieved from the patient's biopsy profiles and records. Demographic data which consisted of gender, age, location of reactive lesions were taken for every case of the patient records. The data collected were entered in the SPSS version 20 and were presented in form of figures and tables.

RESULTS

Total number of 112 patients of reactive hyperplastic lesions of oral cavity, were collected/reviewed from the outpatient department and from oral and maxillofacial surgery ward. Of the total 112 cases 65(58%) were females and 47(42%) were males with a female / male ratio 1.38:1. The range age of these patients was from 11-80 years with mean age 41.7 ±19.4 SD, and fourth decade was the commonest age. Most common site of distribution of the lesion was the gingiva 47(42%), buccal mucosa 39 (35%), labial mucosa 10(8.9%), lip 7(6.2%) and tongue 5(4.5%) and palate 4(3.5%). (fig1). Common type of reactive hyperplastic lesions clinically as well as histopathologically were pyogenic granuloma 59(53%), followed by peripheral giant cell granuloma 31(28%), peripheral ossifying fibromas 12(11%), fibrous hyperplasia's 10(9%) respectively (Table1).

DISCUSSION

Reactive hyperplastic lesions in the oral cavity occur due to chronic irritation or trauma or due to hormonal change.[8] The periodontium in the oral cavity show different focal overgrowths which occur due to proliferation of the connective tissue.[9] Granulation tissue is formed due to chronic trauma which causes inflammation, also endothelial cells and later the proliferation of fibroblasts take place which results in the growth of reactive hyperplasias. These are not neoplastic lesions but eventually produce scar due to formation of granulation tissue.[10] These reactive hyperplastic lesions are divided into 4 subgroups which are pyogenic granulomas, peripheral giant cell granuloma, peripheral ossifying fibroma and fibrous hyperplasia.[11]

According to the previous studies the most common age at which reactive lesions were diagnosed is the 3rd and 4th decade, 18.0% in India [12], and 29% in Chile[13] . Other studies show that the commonest age group were in the 2nd, 3rd and 4th decade.[14].These finding are in consistent with this study finding which show that the most common age at which reactive hyperplastic lesions occur was the 4rd decade 41.7 ±19.4.

The present study shows that females were more at risk of having the hyperplastic lesions in the oral cavity then males with a female versus male ratio of 1.38:1, which are inconsistent to the previous studies .Zarei et al in their study found that the occurrence of reactive hyperplastic lesions in females was more than in males 1.8:1.[15]

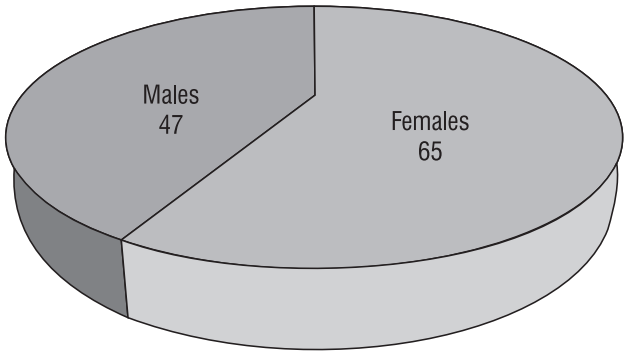

Fig: Gender distribution of the Reactive Hyperplastic Lesions

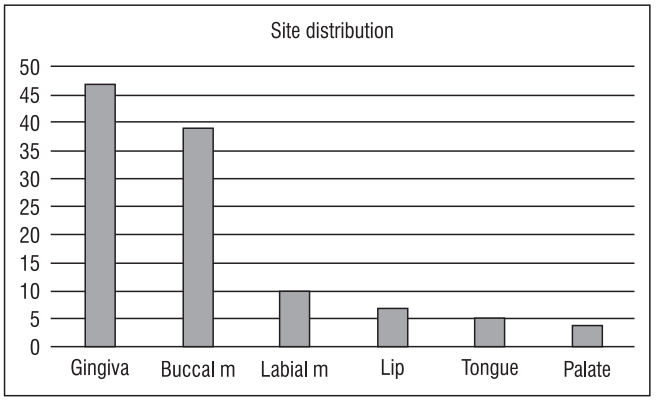

Fig 1. Site distribution of reactive hyperplastic lesions

TABLE 1: FREQUENCY OF THE DISTRIBUTION OF REACTIVE HYPERPLASTIC LESIONS.

Type of lesion	Frequency	Percentage (%)
Pyogenic granulomas	59	53%
Peripheral giant cell granulomas	31	28%
Peripheral ossifying fibromas	12	11%
Fibrous hyperplasia	10	9%
Total	112	100%

According the studies carried out by other researchers the most common site at which most of the reactive hyperplastic lesions occurred were 71.1% in the gingiva Maturama – Ramirez et all.[16] According the study of Sangle et al the most common site of the reactive hyperplastic lesion is buccal mucosa 89(57.4%) .[17] These finding are more or less similar to our studies

according to the site distribution which is the gingiva (42%).

In the present study of the clinical and histopathological types of the reactive lesions the most common ones were pyogenic granulomas (53%) followed by peripheral giant cell granuloma which were second common lesions. The finding are more or less the same as with the previous studies carried out by Soyele et al which show that the occurrence of pyogenic granuloma was 43.7%.[18] Perallas et al[19] stated that in their study the incidence of pyogenic granuloma was 30% of all reactive lesions.

CONCLUSION

Within the limitations of this study it was concluded that the pyogenic granuloma was the most common type of lesion found and the most common site was the gingival mucosa. The dentoalveolar complications can be reduced by early detection. Therefore the site, history and histopathological occurrences of the reactive lesions are very helpful in establishing a diagnosis and proper treatment in practice.

REFERENCES

1 Effiom O, Adeyemo WL, Soyele OO. Focal reactive lesions of the gingival: an analysis of 314 cases at tertiary health institution in Nigeria. Niger Med J. 2011; 52:35–40.

2 Vidyanath S, Shameena PM, Johns DA, Shivashankar VY, Sudha S, Varma S, et al. Reactive hyperplasic lesions of the oral cavity: A survey of 295 cases at a Tertiary Health Institution in Kerala. J Oral Maxillofac Pathol 2015; 19(3):330-34.

3 Kadeh H, Saravani S, Tajik M. Reactive hyperplastic lesions of the oral cavity. Iran J Otorhinolaryngol. 2015; 27(2):137-44.

4 Reddy V, 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(3):e136–40.

5 Dutra KL, Longo L, Grando LJ, Rivero ER. Incidence of reactive hyperplastic lesions in the oral cavity: a 10 year retrospective study in Santa Catarina, Brazil. Braz J Otorhinolaryngol. 2019; 85(4): 399–407.

6 Jalayer Naderi N, Eshghyar N, Esfehanian H. Reactive lesions of the oral cavity: A retrospective study on 2068 cases. Dent Res J (Isfahan) 2012; 9(3): 251–55.

7 Kaur M, Singh, S., Singh, R., Singh, A., Singh, R. Reactive Hyperplastic Lesions of the Oral Cavity: A Retrospective Analysis in Jammu Region of Jammu and Kashmir State, India. Int J Sci Stud. 2016; 4(4):92-96.

8 Regezi JA, Sciubba JJ. Oral Pathology: Clinical-Pathologic Correlation. Philadelphia: Saunders. 2008; p156–59.

9 Rajendran R, Sivapathasundharam B. Shafers's Textbook of Oral Pathology. 6th ed. Noida, India: Elsevier; 2009. p. 128.

10 Shadman N, Ebrahimi SF, Jafari S, Eslami M. Peripheral giant cell granuloma: A review of 123 cases. Dent Res J. 2009; 6(1):47–50.

11 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(8):631–38.

12 A. Maturana-Ramírez, D. Adorno-Farías, M. Reyes-Rojas, M. Farías-Vergara, J. Aitken-SaavedraA retrospective analysis of reactive hyperplastic lesions of the oral cavity: study of 1149 cases diagnosed between 2000 and 2011, Chile Acta Odontol Latinoam, 2015; 28(2):103-107.

13 B. Kashyap, P.S. Reddy, P. NaliniReactive lesions of oral cavity: a survey of 100 cases in Eluru, West Godavari district Contemp Clin Dent, 2012; 3(3): 294-97.

14 Aghbali AA, Hosseini SV, Harasi B, Janani M, Mahmoudi SM. Reactive hyperplasia of the oral cavity: A survey of 197 cases in Tabriz, Northwest Iran. Jdent Res Dent Clin D dent 2010; 4(3):87–89

15 Zarei MR, Chamani G, Amanpoor S. Reactive hyperplasia of the oral cavity in Kerman Province, Iran: a review of 172 cases. Br J Oral Maxillofac Surg. 2007; 45(4):288–92.

16 A. Maturana-Ramírez, D. Adorno-Farías, M. Reyes-Rojas, M. Farías-Vergara, J. Aitken-SaavedraA retrospective analysis of reactive hyperplastic lesions of the oral cavity: study of 1149 cases diagnosed between 2000 and 2011, Chile Acta Odontol Latinoam, 2015;28(2): 103-07

17 Sangle VA, Pooja V K, Holani A, Shah N, Chaudhary M, Khanapure S. Reactive hyperplastic lesions of the oral cavity: A retrospective survey study and literature review. Indian J Dent Res 2018; 29(1):61-6.

18 Soyele OO, Ladeji AM, Adebiyi KE, Adesina OM, Aborisade AO, Olatunji AS, et al. Pattern of distribution of reactive localised hyperplasia of the oral cavity in patients at a tertiary health institution in Nigeria. Afri Health Sci. 2019;19(1). 1687-94.

19 Perallas PG, Viana AP, Azevedo AL, Pires FR. Gingival and alveolar hyperplastic reactive lesions: Clinicopathological study of 90 cases. Braz J Oral Sci 2006;5(2): 1085-89.

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1 Samrina Mohammad:	Conception of study, Wrote whole manuscript.
2 Muslim Khan:	Data collection, Results, Statistical analysis, Supervision.
3 Atta Ur Rehman:	Helped in discussion.