

## Original Article

### **Evaluation Of Granulomatous Lesions Of Oral Cavity In Young Age Population: An Original Research**

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#### **ABSTRACT:**

**Introduction:** The aim of this study was the evaluation of granulomatous lesions of oral cavity in young age population.

**Materials and Methods:** We conducted a retrospective study from January 2010 and December 2020. The records were searched for the demographics, oral granulomatous lesions, both clinical and histopathological diagnoses of lesions were selected. Clinically, the lesions that were noted in the young subjects below 30 years were recorded. **Results:** M:F was 30% males and 70% females. Predominant site of distribution of lesion was in the gingiva. The most common Oral granulomatous lesions clinically were pyogenic granuloma, peripheral giant cell granuloma, Crohn disease (CD), Tuberculosis (TB). **Conclusion:** The clinical features of granulomatous lesions of oral cavity of our patients were similar to those reported previously with divergence in some analyzed data. The novelty in our study was the correlation between age and the lesions, which was not reported in literature until date.

**Key words:** Granulomatous lesions of oral cavity, young age, pyogenic granuloma, peripheral giant cell granuloma.

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#### **INTRODUCTION**

Granulomatous inflammation is a unique form of chronic inflammation.<sup>[1]</sup> Granulomas are distinct structures composed of epithelioid-shaped macrophages, multinucleated giant cells, lymphocytes and fibroblasts. Nevertheless, the clinical findings associated with granulomatous inflammation are usually variable and often indistinct. Granulomatous inflammation has a multifactorial etiology and may give as a reaction to environmental or genetic factors, infectious

organisms, or maybe idiopathic, for which there is no known trigger.<sup>[2]</sup> A typical differential diagnosis includes: foreign body reactions, infection, Crohn disease (CD), sarcoidosis and orofacial granulomatosis (OFG). Less commonly, other systemic diseases may also be associated with granuloma formation. Foreign substances are the most common source of localized granulomatous inflammation in the oral cavity. There are numerous endogenous and exogenous substances which may trigger foreign body reactions. Relatively common

endogenous sources include hair fibers, keratin aggregates and lipids derived from cholesterol deposits and fat emboli. Exogenous materials may include an array of commonly-used dental materials, retained sutures, and cosmetic filler substances-such as hyaluronic acid, which are used for labial and perilabial augmentation.<sup>[3-8]</sup> Foreign body reactions are associated with non-specific clinical findings. These may include non-descript masses, erythema, localized or generalized edema, pain and/or ulceration. With new insights into the pathogenesis of specific granulomatous diseases, and with the advent of high-throughput genetic screening and availability of next-generation biologic therapies, clinicians now have several options at their disposal to help ensure accurate diagnosis and effective treatment. In this study we aim for the evaluation of granulomatous lesions of oral cavity in young age population.

### MATERIALS AND METHODS

We conducted a retrospective study from January 2010 and December 2020. The records were searched for the demographics, oral granulomatous lesions, both clinical and histopathological diagnoses of lesions were selected.

Clinically, the lesions that were noted in the young subjects below 30 years were recorded. Correlation

between clinical and histopathological features was done. All the lesions were treated by excisional biopsy and the cause for chronic irritation was eliminated at the time of excision. Suitable statistical tools were used for the analysis keeping the  $P < 0.05$  as significant.

### RESULTS

From a total of 1528 cases reviewed, 175 cases were diagnosed as Oral granulomatous lesions, with a prevalence of 10.7%. M:F was 30% males and 70% females [Table 1]. We considered the age below 30 for all the inclusions, however most lesions were observed between the ages of 15-27. The sites involved were lip, palate, tongue, buccal mucosa and gingiva. Gingiva was again divided into upper anterior, upper posterior, lower anterior and lower posterior. Clinical appearance consists of sessile or pedunculated masses. The predominant site of distribution of lesion was in the gingiva, followed by the buccal mucosa with the other sites accommodating the remaining percentile [Table 2]. The most common Oral granulomatous lesions clinically were pyogenic granuloma, peripheral giant cell granuloma, Crohn disease (CD), Tuberculosis (TB).

**Table 1: Distribution of cases among the sexes**

Clinical diagnosis	Males		Females		Percentage
	Frequency	Percentage	Frequency	Percentage	
Crohns Disease	3	3.5	7	3.3	3.4
TB	0	0	4	1.9	1
Pyogenic granuloma	20	23.5	61	29	26.3
peripheral giant cell granuloma	62	72.9	138	65.7	69.3
Total	85		210		100

**Table 2: Distribution of lesions according to site**

Site	Frequency	Percentage
Buccal mucosa	55	18.6
Floor of the mouth	2	0.6
Gingiva	64.8	
Lower anterior	61	20.7
Lower posterior	47	15.9
Upper anterior	63	21.4
Upper posterior	20	6.8
Lower lip	5	1.7
Palate	9	3.1
Tongue	28	9.5
Upper lip	5	1.7
Total	295	100

### DISCUSSION

We aim in this study for the evaluation of granulomatous lesions of oral cavity in young age population. Females were more in our study. In various studies done previously these lesions were more common in females (male: female ratio was 1:1.4). In our study the most common site was the

gingiva. The gingival lesions were further divided into 4 regions, and we came to the conclusion that the upper and lower and lower anterior regions had the most prevalence. Aghbali *et al.*<sup>[8]</sup> in a study, distributed the reactive lesions according to the prevalence as fibroma being most prevalent followed by giant cell granuloma, PG, POF and EF.

Conflicting to the results obtained in the survey conducted by Aghbali *et al.*,<sup>[8]</sup> the results of our study showed that the most common lesion encountered clinically was PG.

The four lesions clinically presented as either sessile or pedunculated masses. Many studies suggested that sessile base was the typical clinical feature in granulomatous lesions.<sup>[9]</sup> However, it has been shown in one report that most of PGCGs were pedunculated.<sup>[10]</sup> Interestingly, in our study, sessile bases were predominantly seen in TB; pedunculated were common in Crohn's disease and PGCG, PG showed equal predilection.

PG accounts for the great majority of localized gingival swellings. Nevelle, *et al.* reported that PG can occur anywhere in the mouth, the most common location is the buccal mucosa along the bite line.<sup>[4]</sup> In the present study, it was found that gingiva is the most common site for PG with equal incidence in lower and upper jaws, this is in accordance with the study by Pour *et al.*<sup>[6]</sup> PG bleeds easily due to extreme vascularity. Microscopic examination of PG generally shows an ulcerated surface epithelium that overlies a connective tissue which contains numerous small and large endothelium-lined channels that are engorged with blood cells, simulating AH. In agreement with previous studies,<sup>[6,8]</sup> gingiva was the most prevalent site and females were more affected. The gradual rise in the development of PG in pregnancy may be due to the increasing levels of estrogen and progesterone that occur as pregnancy progresses. This PG is referred to as PT. Other lesions such as peripheral giant cell granuloma PGCG, Crohn disease (CD), Tuberculosis (TB) were equally distributed among the genders. PGCG is a relatively common tumor-like growth of the oral cavity, appears to be more common in the gingiva, which is in agreement with what has been reported in scientific literature.<sup>[6]</sup> PGCG microscopically shows large number of multinucleated giant cells, which can have up to dozens of nuclei. In addition, there are mesenchymal cells that are ovoid and spindle-shaped. Crohn disease (CD) was equally distributed in our study; but only an increased sample size can give an idea as to the exact sex predilection. It appears microscopically as a combination of a mineralized product and fibrous proliferation.

## CONCLUSION

The clinical features of granulomatous lesions of oral cavity of our patients were similar to those reported previously with divergence in some analyzed data. The novelty in our study was the correlation between age and the lesions, which was not reported in literature until date.

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