

Localised Hyperplastic Lesions of the Gingiva: A Clinico-Pathological Study

*Dr.S.K.Padmakumar¹, DrAjith Kumar², Dr.K.Navin Nair³

¹Assistant Professor, Dept. of Oral Pathology, Govt. Dental College, Trivandrum

²Professor, Dept. of Oral & Maxillofacial Surgery, Govt. Dental College, Alleppey

³Junior Resident, Dept. of Oral Pathology, Govt. Dentall College, Trivandrum

Corresponding author: *Dr.S.K.Padmakumar

Abstract

Background: There are probably only few types of specific inflammatory hyperplasias affecting the gingiva, there is considerable confusion because of histological variations and overlap. It is possible that specific histologic appearances are due to triggering of a specific response resulting in a specific pathologic entity or it is possible that the different histologic pictures are that of a single lesion in different stages of repair.

Objectives: To review the clinical features of the lesions grouped on the basis of histologic features for clinic-pathologic correlation.

Methodology: A series of patients reporting to the out patient department of Govt. Dental College, Trivandrum were examined for localised gingival mass till 100 cases of reactive lesions were obtained. The patients were subjected to a thorough clinical examination followed by other diagnostic methods like radiography, routine hematologic examinations and finally biopsy

Results: The inflammatory gingival hyperplasias formed 97% of the cases with 3% cases being neoplastic. Among the cases, 51% were fibrous hyperplasia, 32% were pyogenic granulomas, 12% were peripheral fibroma with calcification and only 5% were found to be peripheral giant cell granulomas.

Keywords: Fibrous hyperplasia, pyogenic granuloma, peripheral fibroma, peripheral giant cell granulomas

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I. Introduction

When neoplastic lesions are eliminated from gingival growths there remains a vast majority of lesions which can be broadly described as inflammatory hyperplasias. These lesions are considered by most workers to be triggered by local irritation to the gingival tissues from masticatory forces, plaque, calculus, root stumps, food debris, ill-fitting dentures etc. Even though there are probably only few types of specific inflammatory hyperplasias affecting the gingiva, there is considerable confusion because of histological variations and overlap. Many classifications have been put forward for grouping these lesions like Stones in 1941, Buchner in 1977 and MacLeod and Soames in 1987. Many authors have maintained that these lesions actually represent different pathological entities while others claim that these different histologic pictures are a spectrum of a single lesion in different stages of repair.

II. Materials And Method

The source of clinical material for this study was from the patients attending the out patient department of Government Dental College, Thiruvananthapuram. A series of patients with localized gingival mass were examined till 100 cases of reactive lesions were obtained. Every case was examined thoroughly including exhaustive intra-oral and extra oral examinations. All the clinically diagnosed cases were followed by other appropriate methods including radiography, routine blood and urine examination and biopsy. Following biopsy, the tissues were subjected to routine fixation and processing schedules. Finally, sections stained with routine haematoxylin and eosin stain were examined under the light microscope. Based on the histologic findings each lesion was grouped under one of the following lesions – pyogenic granuloma, peripheral giant cell granuloma, fibrous hyperplasia and peripheral fibromas with calcification.

III. Results

Of the 100 lesion studied, fibrous hyperplasia was the most common (51%) followed in descending order by pyogenic granuloma (32%), peripheral fibroma with calcification (12%) and peripheral giant cell granuloma (5%). (Fig: 1)

The male to female ratio was 1:2.4. The age varied from 6-68 years with a mean age of 34.5years. Pyogenic granuloma and peripheral fibroma with calcifications showed a high predilection for females with male-female ratio 1:5.4 and 1:5 respectively. (Fig: 2)

The probable aetiology was found in all types of lesions to be local irritants. The most common local irritant was plaque and calculus. Other irritants noted were root stump, over hanging amalgam restoration and in one case it was associated with an ill-fitting partial denture.

The proportion of patients with mandibular lesion was slightly higher than that of maxillary with ratio of 1:1.4. (Fig:3). Pyogenic granuloma showed an anterior mandibular predominance (31.3%). Peripheral giant cell granuloma occurred most frequently in the posterior mandibular region (60%). Fibrous hyperplasia and peripheral fibroma with calcification showed maxillary anterior predominance (43.1% and 50%)

IV. Figures

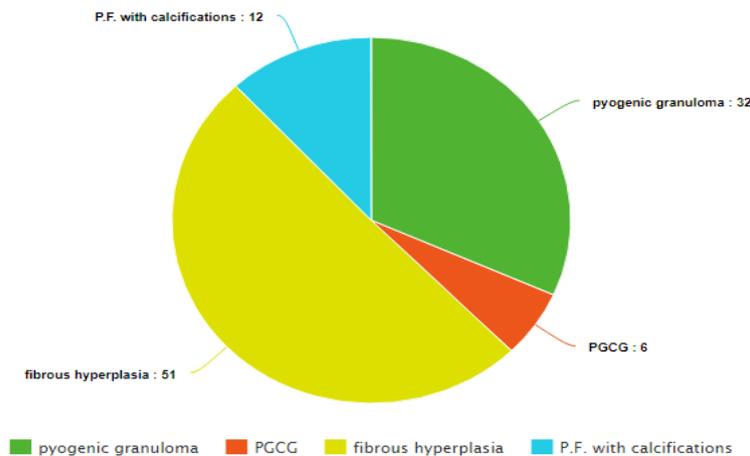


Figure 1: showing distribution of lesions according to the type and number of cases

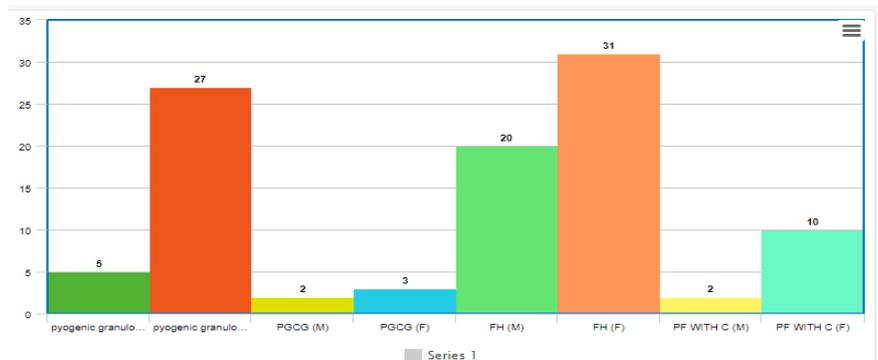


Figure 2 : Distribution of lesions according to sex

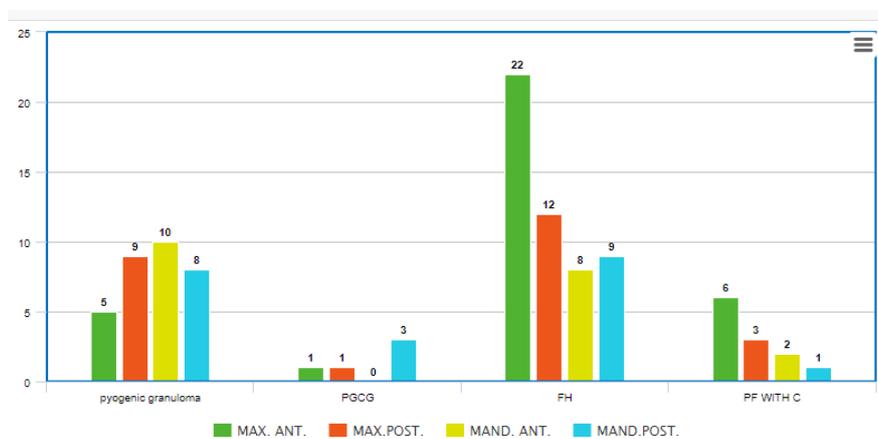


Figure 3: Location of 100 lesions in maxilla and mandible

V. Discussion

For the collection of 100 cases of gingival hyperplasia a total of 100 cases of gingival growths were selected. 3 cases were neoplastic in nature while the others were inflammatory in nature. This type of relative incidence between neoplastic and hyperplastic growths in gingiva has not been reported earlier. 32% of the cases were pyogenic granuloma. This is seen in more commonly younger females. This may be explained by the fact that most so called pregnancy tumours fell into these age groups. These lesions were fast growing in the initial stages and they were bigger than fibrous hyperplasia but smaller than peripheral giant cell granuloma. Histologically, the picture was that of granulation tissue composed of proliferating endothelial cells and fibroblasts with sparse amounts of collagen.

5% of the lesions were peripheral giant cell granuloma. Though trauma is frequently mentioned as an etiological factor, in the present study the data was too scanty to allow any conclusion. The lesions often showed a gradual increase in size attaining larger sizes compared to other three lesions. Histologically, the lesion showed granulomatous proliferation of young fibroblasts and endothelial cells with large number of giant cells.

51% cases were of fibrous hyperplasia with a mean age of 35 years and seen more commonly I females. Most authors believed it to be caused by local irritation. Histologically, the lesion is characterised by moderately dense collagen fibres with slight vascularisation. 12% cases were of peripheral fibroma with calcification. It tends to occur in younger age group and mostly in females. In our study, the local irritants as etiologic agent correlate with previous literature. Histologically, the lesions showed high cellularity and all of them showed surface ulceration. Connective tissue comprised of mild to moderately dense collagen fibres. No histopathologic lesion was encountered which could not be grouped in one of these 4 types. The attempt to find out whether specific clinical features could be attributed to the individual lesions for the purpose of clinical diagnosis was not fully successful. However, when all the features are considered some indication as to the type of lesion can be deduced clinically. But this has not been tested.

VI. Conclusions

A clinical and histopathologic study of 100 cases of inflammatory gingival hyperplasia in patients who reported to the outpatient department of Govt. Dental College, Thiruvananthapuram was conducted after collecting detailed data. On the basis of histopathologic features these lesions were grouped into four types, pyogenic granuloma, peripheral giant cell granuloma, fibrous hyperplasia and peripheral fibroma with calcification.

Local irritation was found in every case and could be the etiologic factor in the pathogenesis of these lesions. All relevant clinical and histological findings were compared with other studies and discussed. The controversy regarding whether the pyogenic granuloma is the initial lesion and some of the others, the different stages in the healing process could not be resolved.

References

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