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A Retrospective Descriptive Study of Clinical Profile and Histopa thological Diagnoses of Solitary Gingival Enlargements

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Abstract: *Solitary gingival enlargements are similar in appearance and often do not show specific symptoms. Moreover in peripheral lesions we do not have radiographic findings to aid in the diagnosis. Histopathological diagnosis may vary from the clinical diagnosis to a great extent. This study was conducted to describe the clinic al profile and histopathological diagnosis of solitary gingival enlargements that underwent excision biopsy over a period of one year. The study showed varied histopathological diagnosis among the solitary gingival enlarg ements studied, though the majority of cases were pyogenic granuloma .*

Keywords: *Solitary gingival enlargements, Pyogenic granuloma, Peripheral ossifying fibroma, Peripheral ce mentifying fibroma, Peripheral Ameloblastoma.*

I. Introduction

Gingival enlargements are a common manifestation of several local and systemic diseases. They are the most often encountered lesions in the oral cavity[1]. Due to the similarity in the clinical presentation and variety o f overlapping terminologies, gingival enlargements remain a challenge for the clinician in proper diagnoses, clas sification and nomenclature[2]. Most of the lesion occurs due to trauma or irritation[1]. They differ in their etiopatho genesis, location, size and propensity for local destruction. Based on distribution they can be localized or genera lized. The localized gingival enlargements are mostly inflammatory /reactive in nature example: irritational fibr oma, pyogenic granuloma, peripheral ossifying fibroma and peripheral giant cell lesion/granuloma. Rarely some of these lesions are neoplastic that may be benign or malignant.[3] Hyperplasia and neoplasia need to be clearly d ifferentiated; long standing hyperplastic lesions in the presence of chronic irritation can become neoplastic[4]. An accurate diagnosis is critically important for the management and prevention of recurrence of these lesions[3,5] . H istopathological diagnoses are found to vary from clinical diagnoses to a great extent in many cases[5]. The presen t study was conducted to describe the clinical profile of solitary gingival enlargements and note the histopatholo gical diagnoses obtained for each.

II. Methodology

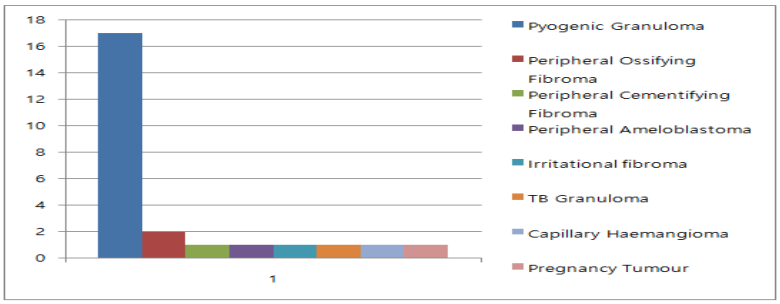
2.1 Study Design: Retrospective study
2.2 Study Population: All excisional biopsies submitted for histopathological examination from March 2015 to February 2016.
2.3 Inclusion Criteria: Solitary gingival enlargements that underwent excisional biopsy.

III. Results

Table 1: Distribution of Gingival Enlargements

S.No	AGE	GENDER	LOCATION	HISTOPATHOLOGICAL FEATURE
1	55	FEMALE	46	Capillary Haemangioma
2	53	FEMALE	11,21	Pyogenic granuloma
3	44	FEMALE	24,25	Peripheral Ossifying Fibroma
4	32	MALE	31,41	Pyogenic Granuloma
5	51	FEMALE	46,47	Pyogenic Granuloma
6	34	FEMALE	33,34	Pyogenic Granuloma
7	65	FEMALE	11,12,13	Peripheral Ameloblastoma
8	35	FEMALE	11,21	Peripheral Cementifying Fibroma
9	22	MALE	22,23	Pyogenic Granuloma
10	46	FEMALE	17,18,27,28	Irritational Fibroma
11	44	MALE	24,25,26	Pyogenic Granuloma
12	36	MALE	36	Pyogenic Granuloma
13	44	FEMALE	12,13	Pyogenic granuloma
14	25	FEMALE	35,36	Pregnancy Tumour
15	53	FEMALE	21,22	Pyogenic granuloma
16.	42	FEMALE	45,46	Pyogenic granuloma

17.	53	MALE	31,32,41,42	Tuberculous Granuloma
18.	56	FEMALE	27,28	Pyogenic granuloma
19.	33	MALE	33	Pyogenic granuloma
20.	60	FEMALE	13	Pyogenic granuloma
21.	42	FEMALE	11,12	Peripheral Ossifying Fibroma
22.	24	FEMALE	22	Pyogenic granuloma
23.	47	FEMALE	45,46	Pyogenic granuloma
24.	46	FEMALE	36	Pyogenic granuloma
25.	35	FEMALE	17	Pyogenic granuloma



Graph1: Distribution of Gingival Enlargements

IV. Discussion

Soft tissue enlargements of the oral cavity often present a diagnostic challenge because of diverse etiop athogenesis. Among the soft tissue enlargements of oral cavity gingival enlargements are a common finding in c linical practice and pose a diagnostic dilemma to the clinician due to their similarity in clinical appearance. The most common form of enlargement is due to plaque induced inflammation of the adjacent gingival tissues and m ay be localized or generalized. Gingival enlargements are influenced by hormonal effects, as found in puberty a nd pregnancy, and also by certain systemic medications. The present study aims to describe the clinical profile o f solitary gingival enlargements and to note the histopathological diagnoses.

In our study Pyogenic granuloma(Fig 1)(Table 1) was the most frequently encountered pathology comp rising 68% of total cases of solitary lesions. Females were more affected than males with a wide age range havin g a peak incidence in the fourth and fifth decade of life. Similar observations were reported by Kfir et al[6] and An gelopoulous[7]. Poor oral hygiene may be a precipitating factor in many PG patients[8]. In our study maxilla was m ore affected than mandible, anterior region more affected than posterior and facial regions were more affected th an lingual aspects. Similar findings were recorded by Vilman et al[9].

Pyogenic granuloma of the gingiva develops in up to 5% of pregnant females[10]. In the present study pre gnancy tumour (Fig2) (Table 1) constitutes about 4% of total cases. The development of this particular kind of g ingival lesion, typical in pregnancy, which is clinically similar to pyogenic granuloma in non pregnant women, s uggests the existence of a relationship between the gingival lesions and the hormonal condition observed in preg nancy. Progesterone and estrogen hormones render the gingival tissue more susceptible to chronic irritation caus ed by plaque and calculus[6,7].

In this study, irritational fibroma(Fig3) (Table 1) constituted 4% of the cases. The inflammatory or rea ctive hyperplasia of gingiva may be the pyogenic granuloma at different stages of histological maturation [6,11]. Irr itational fibroma could represent a fibrous maturation of PG especially in those lesions with long duration.

Peripheral ossifying fibroma(Fig4) (Table 1) which is also known as Ossifying fibrous epulis or peripheral fibro ma with calcification occurred more frequently in females than males by a ratio of 2.25:1[6,12]. In the present stud y Peripheral ossifying fibroma comprised of 8% of the total cases with female predilection. In the present study l esions were observed in the fourth decade of life, in contrast to the findings of Eversole and Rovin[13]. They sugg ested that the loss of periodontium that accompany tooth loss in old age may explain the greater occurrence of P eripheral ossifying fibroma in the younger age group. Superficial periodontal ligament which contains cells capa ble of producing bone are considered to be the etiopathogenesis of the lesion.

Peripheral Cementifying Fibroma (Fig5) (Table 1) comprises of 1%-3% of the gingival lesions [14,15,16,17], with a peak incidence in 2nd and 3rd decade of life having a female predilection [18] . PCF is encountered more oft en in maxillary anterior region [19]. Our study showed similar findings.

Peripheral Ameloblastoma(Fig6) (Table 1) is a rare odontogenic tumor that accounts for 1% of all ame loblastomas[20]. It is typically a slow, benign, single, sessile, asymptomatic lesion. Histologically, this lesion is id entical to the classic intraosseous ameloblastoma but appears exclusively in the oral mucosa over the alveolar pr ocesses of both jaws. Radiographic studies usually are negative for any bony destruction of invasion except for s aucerization of the underlying periosteum[21]. The etiology of PA is unclear. The tumor may be derived from the e xtraosseous epithelial remnants of the dental lamina or from the basal cell layer of the oral mucosa, which is beli

eved to have odontogenic potential[22]. In our study we observed a case with similar clinical and radiographic feat ures in the maxillary anterior region of a female patient which was histopathologically diagnosed as peripheral a meloblastoma.

Tuberculosis is a chronic granulomatous infectious disease caused by Mycobacterium tuberculosis; it c an affect any part of the body including the oral cavity. Extrapulmonary tuberculosis is rare, occurring in 10% to 15% of all cases[23]. Diagnosis of oral tuberculosis is difficult as the clinical presentation may take various forms and the typical constitutional features are absent in most cases. The usual manifestation is as an ulcer or localize d granular mass[24,25]. In the present study we encountered a case of granular mass involving the mandibular anter ior gingiva in male patient with tuberculosis (Fig7) (Table 1).

Capillary hemangiomas are considered one of the common soft tissue tumors of the head and neck; it is relatively rare in the oral cavity. Capillary hemangiomas are composed of many small capillaries lined with a si ngle layer of endothelial cells supported in connective tissue stroma of varying density[26,27].In the present study we encountered a lesion with similar histopathological features involving the mandibular posterior region (Fig8) (Table 1).

V. Conclusion

Our study though limited for a short period of one year and consisting of only excised lesions showed a plethora of histopathologic diagnoses in clinically similar lesions. This highlights the importance of biopsying gingival enlargements especially in patients with long standing lesions and those with systemic diseases. Pyogen ic granuloma is the most common lesion in our study, as found by other investigators. Hence it would be pruden t to remove the most probable etiologic factor of this lesion, namely local irritants, as the first line of treatment o f solitary gingival enlargements. Lesions which do not regress however need to be biopsied without fail.

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FIGURES

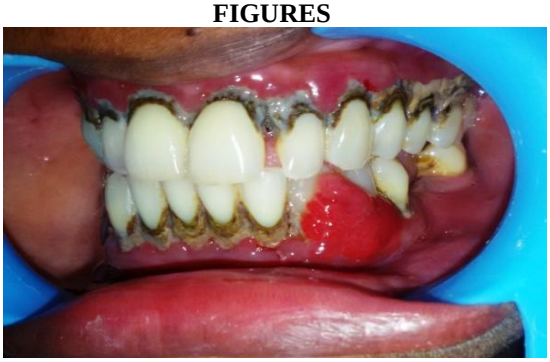

Fig 1 Pyogenic Granuloma

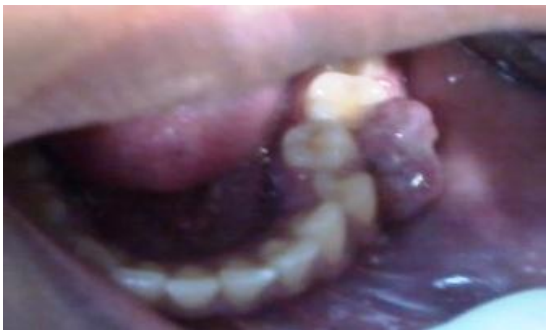

Fig 2 Pregnancy Tumour

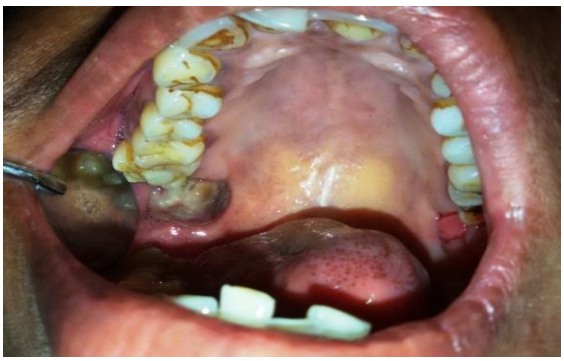

Fig 3 Irritational Fibroma

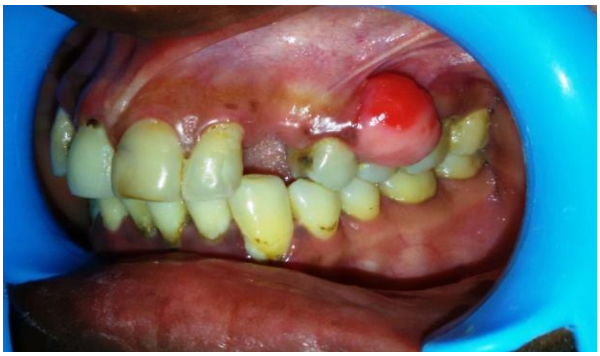

Fig 4 Peripheral Ossifying Fibroma

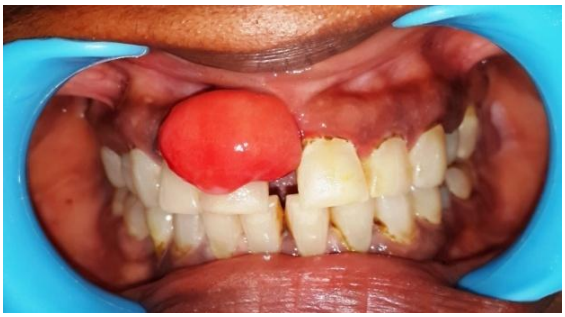

Fig 5 Peripheral Cementifying fibroma

Fig 6 Peripheral Ameloblastoma

Fig 7 Tuberculous Granuloma

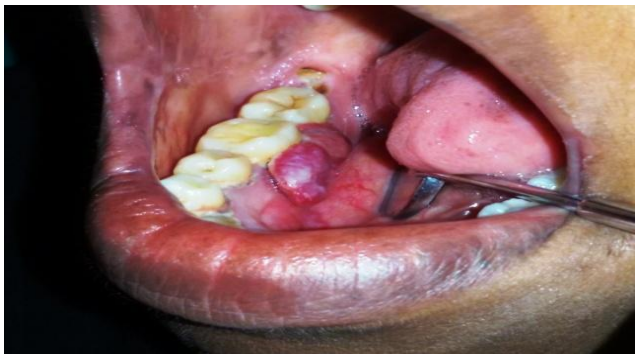

Fig 8 Capillary Haemangioma