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Idiopathic Gingival Enlargement – A Diagnostic Dilemma: A Case Report

Pallavi Soni*
Dental Surgeon, Department of Dental, DG Health Services, Dehradun, India

***Abstract*: Although gingival enlargement is a common finding some rare forms of enlargement are difficult to diagnose. Idiopathic Gingival Enlargement (IGE) also known as Idiopathic gingival fibromatosis (IGF) is one such occurrence and can only be diagnosed chairside by elimination method. Such cases can pose as diagnostic dilemma if associated with medical history. Such cases can be associated with syndrome. This case report discusses one such case of young adult with complete workup and follow up of more than 6 months with no recurrence.**

***Keywords*: Idiopathic Gingival Enlargement, Idiopathic gingival fibromatosis, syndrome.**

1. Introduction

A rare, benign, hereditary and bizarre condition of oral cavity is Idiopathic gingival fibromatosis (IGF)/idiopathic gingival enlargement (IGE) leading to esthetic, functional and psychological problem. [1] It is a heterogenous group of disorder with no definite cause. [2] A numerous investigations are underway to establish a genetic association. [3], [4] IGF usually manifests as autosomal dominant and rarely as autosomal recessive. Numerous syndromes have been associated with idiopathic gingival enlargement (IGE) such as Zimmerman Laband syndrome, Cowden syndrome and Cross syndrome. IGE is also known with other names such as hereditary gingival fibromatosis, elephentiasis gingivae, hypertrophic gingivae, congenital hyperplasia of gingivae. Clinically enlargement is pale pink in color, fibrous in consistency and sometimes present a distinct cobbled appearance, it partially covers crown but in severe cases it completely covers crown and cause diastema, pseudopockets or delayed tooth eruption. Enlargement is associated with appearance of primary or secondary dentition in the mouth and is seen to recede after extraction. Although usually painless may be sometimes painful due to trauma during mastication. [5] This case report presents a patient with idiopathic gingival enlargement which is not associated with any syndrome along with the treatment.

A. Patient Presentation

A 16-year-old boy presents to the department of Periodontology with a complain of increased height of gums in the mouth since two months. Medical history as per the patient comprises of measles 6 months back and persistent stomach ache since then. Considering the association with any syndrome, investigations were carried out to rule them out.

2. Clinical Examination

- E/O: dolichocephalic, leptoproscopic, convex profile, incompetent lips, mouth breathing {Adenoid facies}
- I/O: The anterior sextant of maxillary teeth was seen covered with gingival enlargement extending up to the middle of the crown surface, malocclusion was present. Similar appearance in mandibular anterior sextant was seen sparring the canines, probing presented with pseudo pockets and firm nature of the tissue.

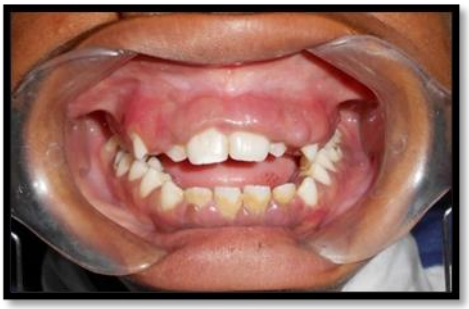

Fig. 1. Frontal view

3. Investigations

Since the patient presented with medical history the opinion of a pediatrician and physician was must, coupled with investigations to consider any systemic involvement

OPG: No evidence of bone loss

CBC, BT, CT: No alteration detected

LFT, KFT: Tests were normal

USG Abdomen: Retroperitoneal lymph nodes were enlarged indicative of extrapulmonary tuberculosis or a malignancy, a confirmatory CECT abdomen negated all claims.

The nature of tissue extracted was to be confirmed after histopathological examination of the biopsy.

Provisional Diagnosis: Idiopathic gingival growth.

Differential Diagnosis:

1. Puberty induced gingival growth
2. Gingival enlargement induced in Aleukemic leukemia.
3. Gingival enlargement caused by tuberculosis.

*Corresponding author: pallavisoni1301@gmail.com

Treatment Plan:

- Supra gingival and sub gingival Scaling.
- External bevel gingivectomy.
- Orthodontic treatment after uneventful healing.

Surgery:

The patient presented with difficulty in mastication therefore surgery was done for entire maxillary and mandibular arch, to be performed sextant wise. After administration of local anaesthesia, the pseudo pockets were removed by external bevel gingivectomy. Coe-pak assisted in uneventful healing, excised tissue was sent for histopathology.

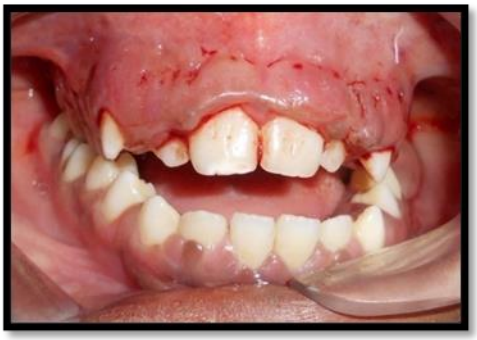

Fig. 2. Marking bleeding points

Fig. 3. Post Gingivectomy

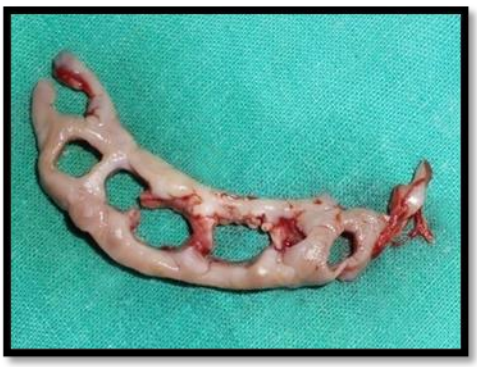

Fig. 4. Excised tissue forms anterior sextant

4. Histopathological Report

Surprisingly the maxillary and mandibular tissue on histopathological examination presented a different picture, although the clinical presentation was same (Biopsy of the maxillary region).

- A parakeratinised stratified squamous epithelium significantly long pointed rete pegs were seen.
- Underlying connective tissue demonstrated it's fibrous nature by abundance of collagen fibres bundles abruptly situated, interspersed with fibroblasts. Also the blood supply of the tissue was good as blood vessels lined by endothelium along with sparse haemorrhagic foci where present. Moderate cellular inflammatory infiltrate as foci was seen.

Histopathological Provisional Diagnosis:

Fibrous hyperplasia (Biopsy of mandibular region)

- The lesional connective tissue was similar as in the maxillary biopsy.
- Few parts of the lesion consisted of lymphoid aggregates showing multiple tubercles. Langerhans giant cells, epitheloid cells encircled by lymphocytes composed the tubercles.

Histopathological Provisional Diagnosis:

Granulomatous lesion.

Final Diagnosis:

After careful consideration of all the factors, correlating the clinical and histopathological findings, the patient was diagnosed with idiopathic gingival enlargement.

5. Discussion

Idiopathic gingival growth maybe present since birth or can be inherited. Hereditary factors seem to play a larger role in fibrous enlargement of gingiva as seen in majority of cases, although the exact genetic process is still not understood. Also, a number of sporadic cases with no such family history have been reported. Majorly autosomal dominant mode of transmission is found. Chromosome 2p21 for such phenotype is the first polymorphic marker. [3], [6].

The aetiology can range from drug induced hypertrophy to associated with physical developments and seen with systemic disease. Drug induced gingival hyperplasia is seen in patients taking medicines like phenytoin [7], nifedipine, nitrendipine, and cyclosporine.

As the physical development ensues or even in retardation and hypertrichosis, gingival hyperplasia can be seen [8]. Since the gingival overgrowth is evident at the time of eruption of primary or rather permanent teeth a trauma-induced reaction is suggested [9]. Quite a few times the enlargement is not seen until the eruption of permanent teeth. Also, further hyperplasia arrests as soon as the growth of jaw is done. [10] Eruption of teeth is hindered by constantly increasing size of gingiva which can also result is malocclusion like arch deformity, displacement of teeth, and spacing. [11] Unchecked gingival enlargement causes difficulty in mastication as the tissue covers most of the crown surface and also the occlusal surface of molars. This causes trauma while chewing food which was also seen in this case. Furthermore, it leads to abnormal tongue movements while swallowing food and difficulties in speech for the child. Oral hygiene measures are compromised because of the tissue mass thereby adding in plaque deposition which can cause inflammation of the tissue.

Gingival hyperplasia can reoccur after surgery within a few

months or after a couple of years, the patient may need a repeat of the procedure.

In this case report insignificant medical and family history, absence of any signs of syndrome, systemic investigations which came with out to be normal and histopathological examination of the tissue suggesting fibrous hyperplasia lead to the final diagnosis of idiopathic gingival enlargement.

Although the exact mechanism of hyperplasia is unknown but the fibroblasts which are a part of the normal cellular constituents of gingiva may seem to play a role as suggested by the fibrous consistency of tissue. The hyperplastic tissue mass does not involve the periodontal apparatus of the teeth, thereby verifying the presence of pseudo pockets.

Since the fibromatosis gingivae hinders mastication, oral hygiene, can cause delayed eruption and malocclusion, and owing to the pseudo nature of pockets external bevel gingivectomy is the best suggested surgical procedure for idiopathic gingival enlargement as was done in the presented case.

In this case uneventful healing and no relapse after 7 months follow up, orthodontic treatment was initiated for better occlusion and oral hygiene maintenance.

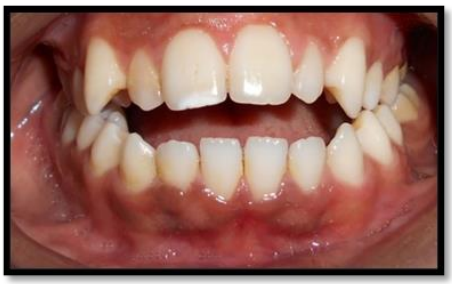

Fig. 5. After 7 months

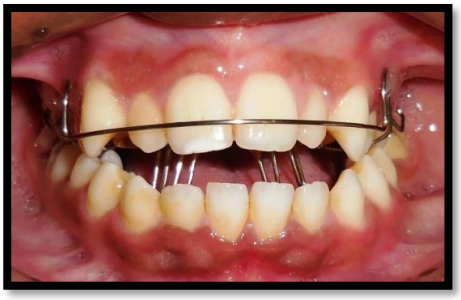

Fig. 6. Undergoing orthodontic treatment

6. Conclusion

This case report is a good example of interdisciplinary diagnosis and management of a nonsyndromic idiopathic gingival enlargement. Surgical resection of the tissue followed by orthodontic treatment helped in maintaining oral hygiene, proper functioning of oral apparatus, and increased aesthetics and confidence for the patient.

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