Case Report

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Atypical Findings in the Management of Idiopathic Gingival Enlargement

Abstract: Idiopathic gingival enlargement is a rare non-hemorrhagic, slowly proliferative fibrous lesion of the gingival tissue in which no causative agent can be identified. These type of enlargement causes esthetic and functional problems. This case report highlights the diagnosis and treatment of the idiopathic gingival enlargement of a 14 years old female patient who presented with a generalized diffuse type of gingival enlargement in both the maxillary and mandibular arches which covers maximum portion of the crowns. Based on family history and clinical examination, diagnosis was made following which segment wise gingivectomy was carried out. Histopathologic evaluation was also done. Post operative enlargement was noticed on first week which gradually decreased to some extent in the third week post operatively.

Key-words: Gingival enlargement, gingival fibromatosis, gingivectomy

Introduction:

Gingival enlargement is the increase in the size of the gingiva which is a common feature of most of the gingival diseases. It can be either hypertrophy which is referred as the increase in the size of the gingiva or it can be hyperplasia which is the increase in the number of cells. Clinically we cannot distinguish which type it is, so it is commonly referred as gingival enlargement or gingival overgrowth.

Gingival fibromatosis (GF) is a type of disorder which is characterized by progressive enlargement of the gingiva due to an substantial increase in submucosal connective tissue elements] The enlarged gingiva occurs as pink, firm, and almost leathery in consistency, which might have a characteristic minutely pebbled surface.[2] The condition is usually painless unless affected by trauma during mastication as many a times the enlarged gingiva covers most of the occlusal surfaces of the dentition. Gingival fibromatosis can be hereditary or idiopathic.

Idiopathic gingival enlargement is a very rare condition. As the name suggests, the etiology of this condition is undetermined. Usually in these types of enlargements no family history can be established and often occurs with the eruption of the deciduous or permanent dentition. Due to enlarged gingiva, oral hygiene practice becomes difficult for the patient and that might lead to the accumulation of plaque which may further complicate the condition.

Gorlin et al. mentioned several syndromes which are associated with the gingival fibromatosis like Murray-Puretic-Drescher syndrome, Rutherfurd syndrome, Zimmermann-Laband syndrome, Jones syndrome, Ramon syndrome etc.[3]

Case Report :

A 14 years old female patient accompanied by her guardians reported to the Department of Periodontology with a chief complaint of swollen gums in her mouth. The patient presented with enlargement of the gingival tissue in her both

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maxillary and mandibular arches which was present since her first tooth erupted. The enlargement was causing difficulty in mastication as well as affecting her speech and smile.

Family history, medical history and drug history of the patient were recorded which were of no significant relevance with the condition. Extraoral examination revealed no gross facial asymmetry, non-palpable lymph nodes and in TMJ also no abnormalities were detected. But, the lips of the patient were incompetent due to the enlarged gingiva and it was also affecting her esthetics because of which she lacked the social confidence.

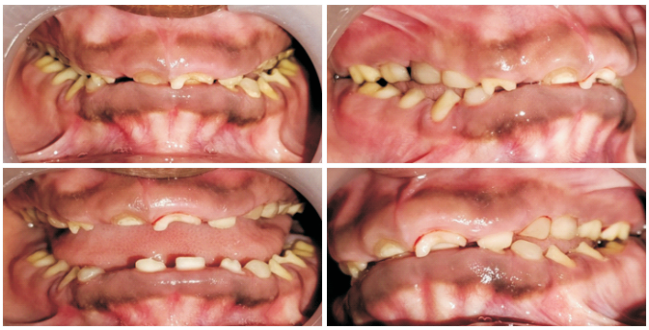


Fig 1: Gingival overgrowth in both the arches

The dentition revealed many missing permanent teeth, over retention of few deciduous teeth and edentulous ridges which indicates of slow process of physiologic shedding and eruption of teeth. An orthopantomogram (OPG) was done which revealedretained permanent tooth buds in the bony crypts (Fig 2).Other investigations like complete hemogram, viral markers were done which were within the physiologic limits.

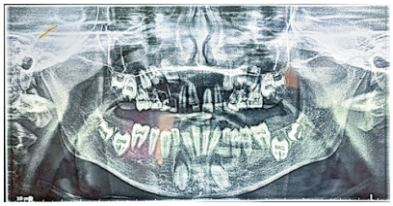


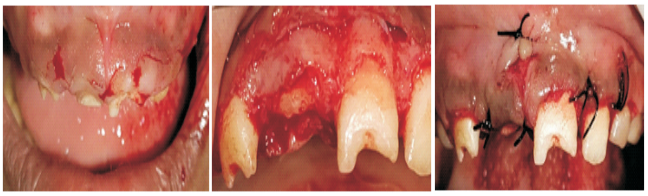
Fig 2: OPG showing delayed teeth shedding and eruption

Management :

With the available data from our examinations and investigations a provisional diagnosis of idiopathic gingival fibromatosis was made and a treatment plan was proposed which comprised of scaling and segment wise gingivectomy followed by orthodontic and prosthodontic interventions as required.

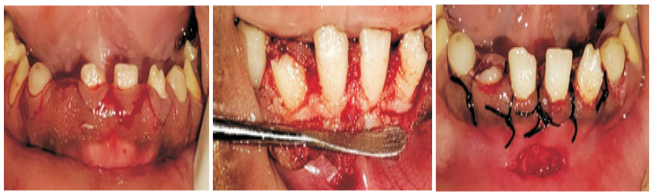
At firstfull mouth scaling was done and patient was recalled after one week. On the day of surgery, first intra oral and extra oral asepsis was done following which adequate anaesthesia was achieved using 2% lignocaine with 1:80,000 adrenaline. Internal bevel gingivectomy was performed segment wise in both the maxilla and mandibular anterior segment on subsequent appointments. During gingivectomy in maxillary segment (Fig 3) the tooth 51 was found mobile and after its extraction erupting 11 was visible. During gingivectomy of the mandibular segment (Fig 4) after flap reflection, erupting 42 was revealed which was exposed in the oral cavity during suturing.

Adequate osteoplasty was done in both the segments and the site was irrigated with betadine. Then suturing was done and periodontal dressing was placed for 7 days. Post-operative instructions were given to the patient as well as her guardian and medications were also prescribed. Excised tissue was also sent for histopathological evaluation. The patient was recalled after 7 days for follow-up



(A) (B) ©

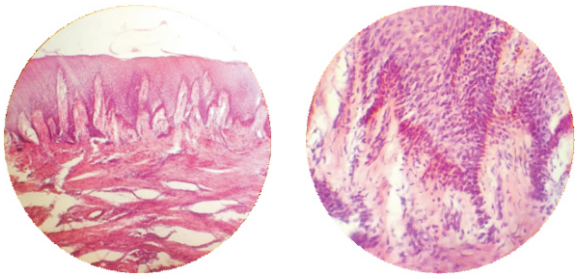
Fig 3: Gingivectomy in maxillary anterior segment; (A) Incision line,(B) Flap reflection revealed erupting permanent tooth 11 underneath of mobile 51 which was extracted followed by osteoplasty, (C) suture placement.



(A) (B) ©

Fig 4: Gingivectomy in mandibular anterior segment; (A) Incision line, (B) flap reflection revealed erupting 42 in the edentulous space followed by osteoplasty, (C) Suture placement

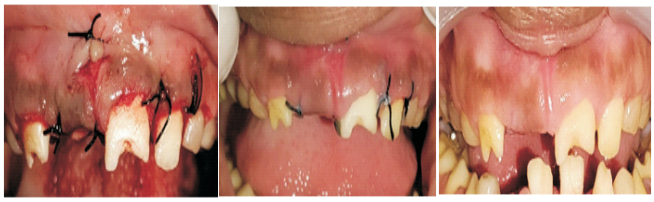
Histopathological section (Fig 5) revealed stratified squamous epithelium with slender long rete pegs. The connective tissue stroma showed dense collagen bundles. These findings led to the final diagnosis of idiopathic gingival fibromatosis



(A) (B)

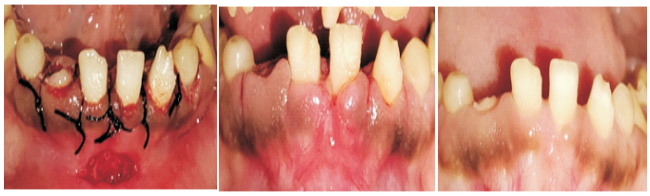
Fig 5: Histopathological sections showing long rete pegs and dense collagen bundles in the connective tissue; (A) 10X view, (B) 40X view.

Periodontal dressing and sutures were removed after one week. The 7th day post operative result showed enlarged gingiva compared to immediate post-operative result in both the maxillary and mandibular anterior segments (Fig 6B and 7B). Post operative instructions were given and oral hygiene methods were again taught to the patient and she was recalled after 2 weeks. On the 21st day the enlargement was found to have reduced to some extent but the results were not as expected (Fig 6C and 7C).



(A) (B) (C)

Fig 6: Timeline of maxillary gingivectomy; (A) Immediate post operative, (B) 1 week post operative, (C) 3 weeks post operative



(A) (B) (C)

Fig 7: Timeline of mandibular gingivectomy; (A) Immediate post operative, (B) 1 week post operative, (C) 3 weeks post operative.

Discussion:

Gingival fibromatosis can occur due to hereditary factors or it can be an idiopathic one. The hereditary ones are related to genetic mechanisms which are still not understood well enough.[2] But when causative agents are not identified i.e., when genetic factors or any underlying syndrome is ruled out, it is preferably called as idiopathic gingival fibromatosis. Fibromatosis can also occur due to some drugs like phenytoin etc.[1] The predilection of generalized type is more common in male patients in which occurrence rate of hereditary types are common.[4] But in our case, non-relevant family history, drug history, medical history with bilateral enlargement in both the jaws, led to the diagnosis of generalized idiopathic gingival enlargement.

Sometimes, gingival fibromatosis can occur so severe that it almost covers the incisal or occlusal surfaces of the dentition. This causes difficulty in mastication as well as speech and incompetent lip closures.[5] Thus the excessive gingival display causes an unesthetic appearance due to which the patient refrains from social engagements and lacks self-confidence which is also seen in our patient.

Gingival enlargements can produce difficulty in oral hygiene maintenance leading to accumulation of plaque and thus can further worsen the situation. So surgical intervention along with proper and adequate oral hygiene practices must be considered.[6]

Internal bevel gingivectomy was selected over external bevel gingivectomy as it helps in moreover easy placement of primary incisions. This procedure also does not leave a large external bevel raw surface and therefore result in less post-operative pain and bleeding. Also, it allows the reflection of conventional flap to permit visibilityand access for the underlying osseous assessment.[7] Similar techniques were also followed by Yadav VS et al. (2013)[8] and Majumdar P et al (2013)[9] for treatment of gingival fibromatosis which yielded good results.

Histopathological evaluation suggested of thick band of collagenous bundles in the connective tissue stroma which is the reason for excessive enlargement of the gingival tissue and also describes the fibrous nature of the tissue. Tipton DA et al[10] reported that excess production of extracellular matrix, type I collagen and fibronectin contribute to the increased bulk of gingiva. Many authors suggested that number of fibroblasts present, determines the chance for recurrence.[11] Repeated gingivectomy may also affect the patient psychologically.

Many authors described association of gingival fibromatosis with a syndrome. Jones syndrome is one such syndrome where it is associated with sensorineural hearing loss.[3] In this condition, delayed eruption of both the primary and permanent dentition have been reported.[12,13] As in our case the eruption of the permanent dentition was also delayed along with over retention of the deciduous teeth, but the audiometry test was not conducted. So, there is no confirmatory report to verify that the patient is suffering from Jones syndrome.

With reference to healing, the patient showed a peculiar pattern of healing where enlargement increased more than the immediate post operative level in the following days up to the 7th day. Though the swelling reduced thereafter till 3rd week, still expected results were not achieved which may suggest that there is an undiagnosed systemic disorder or an underlying condition present that is responsible for the usual healing. No supporting data were found where similar healing response were recorded in cases of idiopathic gingival enlargements. There can also be a high chance of recurrence in near future.

Conclusion:

Although the causative factor for gingival fibromatosis is not identified through history of the patient, probability that the patient is suffering from any sort of undiagnosed condition or syndrome cannot be ruled out and further investigations are required. Seeing the pattern of tissue response post surgically, it can be said that the chances of recurrence is very likely which is common in any cases of fibromatosis. The patient was referred to a paediatrician for consultation and is currently kept under our follow-up regime to better understand the tissue healing and proceed for further treatment accordingly.

References:

1. Shetty AK, Shah HJ, Patil MA, Jhota KN. Idiopathic gingival enlargement and its management. Journal of Indian Society of Periodontology. 2010 Oct;14(4):263-265.
2. Kantarci A, Carranza FA, Hogan E. Gingival Enlargement. Newman and Carranza's clinical periodontology. 13th edition. Philadelphia: Elsevier; 2019. p.256-267.
3. Gorlin RJ, Pinborg JJ, Cohen MM, Jr. Syndromes with Gingival/Periodontal Components.Syndromes of the head and neck. 4th edition. New York: Oxford University Press. 1976, p. 1093-1100.
4. Nayak PA, Nayak UA, Khandelwal V, Ninave N. Idiopathic gingival fibromatosis. International Journal of Clinical Pediatric Dentistry. 2011;4(1):77-81.
5. Chaurasia A. Hereditary gingival fibromatosis. National Journal of Maxillofacial Surgery. 2014 ;5(1):42-46.
6. Reddy H, Babu H, Gadewar K, Kumar P. Management of Idiopathic Gingival Enlargement. Journal of Clinical and Diagnostic Research: JCDR. 2016 ;10(5):ZJ03-ZJ04.
7. Rose LF, Cohen DW. Principles of Periodontal Surgery. Periodontics: medicine, surgery, and implants. Missouri: Elsevier Mosby; 2004.
8. Yadav VS, Chakraborty S, Tewari S, Sharma RK. An unusual case of idiopathic gingival fibromatosis. Contemporary clinical dentistry. 2013 Jan;4(1):102-104.
9. Majumder P, Nair V, Mukherjee M, Ghosh S, Dey SK. The autosomal recessive inheritance of hereditary gingival fibromatosis. Case Reports in Dentistry. 2013 Dec 14;2013. p 1-4.
10. Tipton DA, Howell KJ, Dabbous MK. Increased proliferation, collagen, and fibronectin production by hereditary gingival fibromatosis fibroblasts. Journal of periodontology. 1997 ;68(6):524-30.
11. Bittencourt LP, Campos V, Moliterno LF, Ribeiro DP, Sampaio RK. Hereditary gingival fibromatosis: review of the literature and a case report. Quintessence International. 2000 Jun 1;31(6):415-418.
12. Hartsfield Jr JK, Bixler D, Hazen RH, Opitz JM, Reynolds JF. Gingival fibromatosis with sensorineural hearing loss: an autosomal dominant trait. American journal of medical genetics. 1985 Nov;22(3):623-7.
13. Chaïb H, Place C, Salem N, Chardenoux S, Vincent C, Weissenbach J, El-Zir E, Loiselet J, Petit C. A gene responsible for a sensorineural nonsyndromic recessive deafness maps to chromosome 2p22–23. Human molecular genetics. 1996 Jan 1;5(1):155-8.