

# A Case Report of Idiopathic Gingival Enlargement with Tooth Repositioning after Surgical Therapy

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## ABSTRACT

Gingival enlargement is a heterogeneous and common, slowly progressing enlargement of the gingiva caused by an increase in connective tissue elements. Various local factors such as plaque and systemic factors such as changes in hormonal levels, intake of certain drugs, hereditary, can cause or influence gingival enlargement. The enlargement is classified as “Idiopathic”, when the underlying cause is not known or cannot be identified and are characterized by slow and progressive enlargement of attached gingiva as well as the gingival margin and interdental papilla.

**KEYWORDS:** Gingival enlargement, idiopathic, tooth repositioning

## INTRODUCTION

Gingival enlargement is a heterogeneous and common, slowly progressing enlargement of the gingiva caused by an increase in connective tissue elements<sup>1</sup>. Various local factors such as plaque and systemic factors such as changes in hormonal levels, intake of certain drugs, hereditary, can cause or influence gingival enlargement. Slight increase in gingival bulk is relatively common, but massive gingival enlargement with associated bone resorption is rare. Diagnosis of idiopathic gingival enlargement requires the exclusion of the known causes including leukemic enlargements.<sup>2</sup> The enlarged gingival tissue is pale pink, firm, and leathery in consistency with a characteristic pebbled surface. The enlarged tissue can cause diastema, pathological migration and may partially or totally cover the clinical crown of the tooth, delay or impede tooth eruption and periodontitis. Severe cases may cause problems with mastication, phonetics and esthetics. The beginning of the enlargement usually coincide with the eruption of permanent teeth, however, cases have been reported to occur even in deciduous dentition and rarely at birth.<sup>3,4</sup>

## CASE REPORT

An 18 year old female accompanied by her mother reported to the department of periodontology, Govt. Dental College & Hospital, Patiala with the complaint of severely enlarged gums in upper and lower arches, which caused esthetic impairment. The history given by the patient revealed that there was gradual and progressive enlargement of both upper and lower gingival tissues from the age of six years, with an irregular arrangement of her teeth which increased with time. There was neither family history nor any history of epilepsy or intake of

medication known to cause gingival enlargement.

Extra-oral examination revealed bilaterally symmetrical face with a bi-maxillary protrusion and incompetent lips (Fig. 1). Intra-oral examination revealed generalized gingival enlargement, pink color, firm and fibrotic consistency and stippled surface texture. The teeth were malpositioned with the enlarged gingiva covering the crowns till incisal/occlusal third region (Fig. 2).



Fig. 1: Pre surgical extra-oral view



Fig. 2: Pre surgical intra-oral view

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Radiographical examination included orthopantomograph in which significant alveolar bone loss was observed. Lab investigation included complete haemogram, thyroid tests (T3, T4 & TSH), calcium and alkaline phosphatase level estimation. All the above tests were within the normal physiological range.

As the patient exhibited negative family history with no sign of hypertrichosis, mental retardation and history of epilepsy or intake of any medication, which are known to cause gingival enlargement, a provisional diagnosis of idiopathic gingival enlargement was made.

After the establishment of the provisional diagnosis, details about the condition and treatment plan was explained to the patient after which consent was obtained. The initial phase included thorough scaling and root planing, which was then followed by surgical excision of the enlarged gingiva under local anesthesia and the excised tissue sample was then sent to the laboratory for further histopathological investigation. Histo-pathological report showed stratified squamous epithelium exhibiting hyperplasia and elongation of rete ridges with underlying intense inflammatory infiltrates comprising of lymphocytes, plasma cells, few neutrophils, congested blood vessels and increased collagen content, which confirmed our diagnosis i.e. idiopathic gingival enlargement.

Followup was advised after 1 week, 3 months, 6 months (Fig 3,4,5). Repositioning of Teeth seen at 6 months follow-up visit (Fig 6).



Fig. 3: 1 week post-surgical intra-oral view showing irregular arrangement of teeth



Fig. 4: 3 months post-surgical follow up



Fig. 5: 6 months post-surgical follow up



Fig. 6: Observable repositioning of the teeth at 6 months post-surgical follow-up

## DISCUSSION

Various local and systemic factors can result in generalized gingival enlargements such as hormonal changes<sup>5</sup> (puberty, contraceptive pills, menstruation, pregnancy) Drugs<sup>6-10</sup> (phenytoin, sodium valproate, cyclosporine, and nifedipine), neoplastic processes<sup>11-13</sup> (myelo-monoblastic leukemia, acute promyelocytic leukemia) and syndromes.<sup>5,14</sup> Approximately half of the cases of gingival enlargement are associated with extra oral conditions.<sup>15,16</sup> A variety of syndromes may be associated with gingival enlargement and occur most commonly with hypertrichosis, epilepsy, and or mental retardation<sup>17</sup>, although many other extra-oral conditions may be seen.<sup>18,19</sup>

Various known syndromes associated with gingival enlargement includes Rutherford's syndrome (corneal dystrophy), Jones syndrome (progressive deafness), Murray-Puretic Drescher syndrome (multiple hyaline fibromas), Laband syndrome, cross syndrome<sup>3</sup>, Cornelia De Lange syndrome, Ramon's syndrome, Hypothyroidism, chondrodystrophia, and diffuse osteofibromatosis<sup>20</sup> (GF with osteofibrosis), Wynne and colleagues<sup>21</sup> have reported a syndrome which is associated with hearing deficiencies, hypertelorism, and presence of supernumery teeth. While the cause of our case is none of the above-known syndromes, thus, all such enlargements without any known cause should be

classified as idiopathic gingival enlargement.<sup>22</sup> Idiopathic gingival enlargement which affects the attached gingiva as well as the marginal gingiva and the inter-dental papilla.<sup>23</sup>

Although gingival tissue may appear normal at birth, gingival enlargement may become evident with the eruption of primary or permanent dentition which may be suggestive of a trauma induced reaction caused by the tooth eruption. In some cases, gingival enlargement starts with the eruption of permanent dentition and ceases once the completion of growth occurs.<sup>24,25</sup> Gingival enlargement does not cause any pain until the tissue enlarges to cover the occlusal surface of the teeth and may become traumatized and painful.<sup>26</sup> Gingival enlargement may also cause displacement of teeth, arch deformity, spacing and migration of teeth and in the severe cases, may lead to esthetic problems, difficulties in speech and mastication, and also abnormal swallowing patterns.<sup>27</sup> It was also observed that there was a gradual repositioning of the irregularly arranged tooth at subsequent post-surgical follow-up (Fig. 3-6). This could be explained by the removal of the etiological factors such as pressure produced from enlarged gingiva and disturbance in the force of oro-facial musculature.<sup>28,29</sup>

## CONCLUSION

Management of the patient with idiopathic enlargement presented should include a complete medical and physical examination to rule out the known cause. Biopsy should be normally performed to confirm the diagnosis and to rule out a neoplasm. Surgical treatment may include gingivoplasty, modified flap incision for ledge and wedge technique, gingivectomy, extraction of teeth.

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