



Case Report

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Case Reports: Plaque And Puberty Associated Gingival Enlargement in Paediatric Patients



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Abstract

Gingival enlargement is a feature of gingival diseases and can be challenging to diagnose due to diverse presentations and causative factors such as inflammation, medication, systemic diseases, conditioned enlargement, neoplastic enlargement, and false enlargement. Accurate diagnosis is crucial for appropriate management and prevention of these presentations. A decision tree may help practitioners arrive at a diagnosis systematically. Awareness of both common and rare presentations of gingival enlargement is essential for formulating a comprehensive differential diagnosis. This case report aims to highlight key findings on two different cases presenting plaque and puberty induced gingival enlargement and their management based on clinical presentation and patient engagement.

Keywords: Gingival Enlargement; Gingivectomy; Plaque-induced Gingivitis; Puberty

Introduction

Gingival enlargement is a common symptom of gingival disease characterized by an increase in the size of the gingiva. It can be caused by factors such as inflammation, medication, systemic diseases, conditioned enlargement, neoplastic enlargement, and false enlargement [1]. It is most caused by plaque-induced inflammation and hormonal disturbances during puberty and pregnancy [2]. Puberty is associated with a major increase in the secretion of sex steroid hormones such as Testosterone in males and Estrogen in females [3]. The presentation begins with a slight swelling of the papilla or marginal gingiva, depending upon the extent and location of the irritant. The swelling may progressively increase in size and extent to become generalized. Clinically, these enlargements may appear bluish or deep red. They are frequently friable and soft with a smooth, shiny surface and they usually bleed easily.

Occasionally, chronic inflammatory enlargement may also present as firm, resilient, pink, and fibrotic enlargement, which histologically show an abundance of fibroblasts and collagen fibres [4]. The clinician should employ an open- mind and holistic approach and consider all possibilities before coming to the final diagnosis and intervention [5]. Therapeutic approaches

include a comprehensive medical history and non-surgical periodontal therapy. Surgical excision and gingivectomy using an electrosurgical unit may be performed to address aesthetic and functional concerns. The text also refers to two cases of pubertal gingival enlargement encountered at a paediatric dental unit.

Case 1

A 14-year-old female was referred to the Paediatric Dental Unit at Chelsea and Westminster Hospital NHS Trust, regarding swollen gums and spontaneous bleeding from the anterior maxillary and mandibular region. This presentation developed 1 year ago and worsened over time. Recent blood tests by General Practitioner were normal. The patient was also presented with a history of mouth breathing, reduced brushing due to the associated bleeding and discomfort. The patient was otherwise medically fit and healthy and personal history revealed that she had entered her menarche two years ago. Intra-orally, heavy generalised plaque deposits were found, along with halitosis and bleeding on probing. A diffuse gingival enlargement involving the marginal, interdental and attached gingiva was observed (Figure 1). Enlarged gingivae was primarily present in the anterior region with posterior regions exhibiting minimal hyperplasia.



Figure 1: Mandibular and Maxillary anterior gingival enlargement.

A diagnosis of plaque related gingivitis and gingival enlargement was made and a plan for three monthly ultrasonic scaling and polishing (with the aid of local anaesthesia) and local measures. Patient and parents were warned that complete resolution of enlargement may not be possible and further intervention needed. However, first line of treatment in this case was conservative management with 3 monthly supragingival and subgingival professional mechanical plaque removal (PMPR). 3 months recall revealed only slight reduction in hyperplastic gingivae and slow resolution. Periodontal treatment is ongoing and final results cannot be evaluated yet.

Case 2

11 years old female was referred to our unit with the presenting complaint of un-erupted upper left central incisor (UL1) and enlarged gingivae. The patient was extremely anxious, crying during consultation and stated she could not smile due to aesthetic concerns. Medically, she had hayfever and took antihistamines. Dental history including temporary restorations in the dental chair, following which patient developed high dental anxiety. Inhalation sedation failed, following which general anaesthesia was undertaken.

Intra-oral examination revealed gross plaque and calculus deposits in the mandibular and maxillary anterior regions, un-erupted UL1, as shown in Figure 2.

Full Mouth Rehabilitation was undertaken including restorations in all first permanent molar teeth, extractions of exfoliating Primary teeth and Gingivectomy using electrosurgery, aiming to preserve interdental papillae integrity. UL1 was uncovered by removing the thick overlying gingivae, as shown in Figure 3. A diagnosis of plaque and puberty induced gingivitis was made. On a 2 weeks recall, healing was uneventful, and no relapse was seen. Brushing had improved and the patient advised orthodontic assessment and treatment will be undertaken following improvement in oral hygiene.

Discussion

Puberty associated gingival enlargement is one of the gingival diseases categorized as dental plaque induced gingival diseases modified by endocrine system, in the currently accepted periodontal disease classification [1]. in a study confirmed that there was a statistically significant increase in gingival inflammation and in the proportion of P. intermedia and P. Nigrescens in puberty. Increase in gingivitis has been reported in cross-sectional and longitudinal studies of several systemic conditions such as puberty [2]. These two cases present a classic presentation of females undergoing hormonal changes and poor plaque control which lead to severe gingival enlargement, affecting aesthetics and confidence.



Figure 2: Un-erupted UL1, gingival enlargement anterior mandibular and maxillary region.



Figure 3: Gingivectomy using Electrosurgery.

Gingival enlargement in puberty is treated by performing scaling and curettage, removing all sources of irritation and controlling plaque [1,2,4]. Surgical removal is required in severe cases Sharma et al., stated that the most widely employed

surgical approaches for the treatment of gingival enlargement is gingivectomy, flap technique by laser, electrosurgery or conventional means. Gingivectomy is defined as the excision of the soft tissue wall of a pocket [2]. The procedure is usually combined

with the recontouring of hyperplastic tissue by gingivoplasty to restore physiological gingival form. Electrosurgery has many advantages over conventional therapy and when applied according to principles, predictable and good wound healing can be achieved. Comparative studies between the use of Electrosurgery and periodontal knives for gingivectomy have demonstrated that the rate of soft tissue healing was similar with the two procedures [2,4,5].

Conclusion

Gingival enlargements can often be diagnosed by a careful history (e.g., drug influenced, or hormonal influenced gingival enlargement), by location (e.g., mouth-breathing enlargement around anterior teeth). The presence of local irritants (plaque and calculus) could be primary or associated cause of gingival enlargements. Hence, plaque control is an essential aspect of management in all the patients, of all ages. An excisional/incisional biopsy and/or hematologic/histologic examination may be needed occasionally to correctly diagnose the uncommon cases of gingival enlargement. The clinician should have an open mind and consider all possibilities before coming to the final diagnosis of the condition at hand.

Learning Points

a) Accurate diagnosis through comprehensive history taking is crucial for appropriate management.

b) The clinician should employ an open- mind and holistic approach and consider all possibilities before coming to the final diagnosis and intervention.

All patient factors should be considered in short- and long-term management including patient engagement, behaviour, lifestyle, stress, anxiety and functional/ aesthetic concerns.

References

1. Agrawal AA (2015) Gingival enlargements: Differential diagnosis and review of literature. *World Journal of Clinical Cases* 3(9): 779-788.
2. Sharma A, Singh S, Kaushik M, Khattri S (2019) Journal of Advanced Medical and Dental Sciences Research. *Journal of Advanced Medical and Dental Sciences Research* 7(9).
3. Jabr F, John A (2021) Long - Publications List. *Publications list org* 14(6).
4. Omar R (2015) Puberty Associated Gingival Enlargement: Clinical Case Report and Periodontal Management. *Journal of Dental Science Research Review & Reports* 2(1): 1-3.
5. Bhandal S (2023) Gingival enlargement among the paediatric population: an overview and case report - *Dental Update*. *Dental Update* 50(3).



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