Content available at: https://www.ipinnovative.com/open-access-journals

Journal of Pierre Fauchard Academy

Journal homepage: https://www.jpfa.in/

Case Report

Gingival enlargement: A report of eight cases with varied aetiology

Niharika Kumari[1]*, Manesh Lahori[1], Vinay Mohan[1], Anuj Gaur[1], Siddharth Sisodiya[1], Binish Khan[1]

[1]Dept. of Oral Medicine Radiology, K D Dental College, Mathura, Uttar Pradesh, India.

Abstract

Gingival enlargement, also popular as gingival hyperplasia or gingival hypertrophy, can be described as an abnormal growth of gingival tissues. The present case report describes cases of gingival enlargement in various conditions. Gingival enlargement is a commonly found disease of gingiva and a clinical symptom frequently associated with specific conditions. The etiology and thus treatment plan varies accordingly in different types of gingival enlargement.

Keyword: Gingival enlargement, Leukemia, Drug-induced, False enlargement.

Received: 14-05-2025; **Accepted:** 09-06-2025; **Available Online**: 20-06-2025

1. Introduction

Gingival enlargement is a multifactorial condition that can develop in response to various stimuli and interactions between the environment and the host. These may include reactions to low-grade injuries, such as calculus, tooth fracture, food lodgment, overhanging restorations, or overextended denture flanges. The extent and severity could cause functional disturbances with speech, mastication and psychological problems.

An increase in the size of the gingival tissue is a common feature of gingival diseases. Accepted current terminology for this condition is ‘gingival enlargement’ and ‘gingival overgrowth’. The various types of gingival enlargement can be classified as follows:

According to their etiologic factors and pathologic changes.[1]

1. Inflammatory enlargement
a. Chronic
b. Acute
2. Drug-induced gingival enlargement
3. Enlargements associated with systemic diseases
a. Conditioned enlargement
i. Pregnancy
ii. Puberty
iii. Vitamin C deficiency
iv. Plasma cell gingivitis
v. Nonspecific conditioned enlargement (granuloma pyogenicum)
b. Systemic diseases causing gingival enlargement
i. Leukemia
ii. Granulomatous diseases
4. Neoplastic enlargement
a. Benign tumors
b. Malignant tumors
5. False enlargement

According to the criteria of location and distribution, gingival enlargement is designated as:-

1. Localized-limited to the gingiva adjacent to a single tooth or group of teeth
2. Generalised involving the gingiva throughout the mouth.
3. Marginal- confined to marginal gingiva
4. Papillary- confined to the interdental papilla
5. Diffuse-involving the marginal and attached gingivae and papillae
6. Discrete- an isolated sessile or pedunculated tumour-like enlargement[2]

*Corresponding author: Niharika Kumari
Email: niharikasonkhia93@gmail.com

https://doi.org/10.18231/j.jpfa.2025.006

The degree of gingival enlargement can be scored as[4]

1. Grade 0: No signs of gingival enlargement
2. Grade I: Enlargement confined to interdental papilla
3. Grade II: Enlargement involves papilla and marginal gingiva
4. Grade III: Enlargement covers three-quarters or more of the crown

2. Case Reports

2.1. Case 1

A 50-year-old female reported to the Department of Oral Medicine and Radiology with the chief complaint of gingival enlargement in relation to maxillary and mandibular anterior teeth since an year. She also complained of difficulty in mastication and was concerned about the aesthetic aspect. There was no history of drug intake that is known to provoke gingival enlargement, or a family history present. Intra-oral examination revealed Grade I enlargement with maxillary and mandibular anterior teeth; the enlargement was diffuse and fibrotic with an increase in stippling, and generalized gingival bleeding on probing (**Figure 1**). Panoramic radiograph reveals generalised bone loss. Provisional Diagnosis of Chronic generalised periodontitis was established.

2.2. Case 2

A 36-year-old male reported to the Department of Oral Medicine and Radiology with the chief complaint of gingival enlargement in relation to maxillary and mandibular anterior teeth in the last 2-3 years. He also complained of bleeding (**Figure 2**). There was a history of epilepsy, and the patient was under Tablet Eptoin 200mg BD (Phenytoin) for 15 years, which is known to provoke gingival enlargement. Intra-oral examination revealed generalised painless bead-like, soft and oedematous, fibrotic, Grade 3 enlargement (covering full crown) with maxillary and mandibular teeth. CBC, Peripheral blood smear and OPG were done. OPG reveals mild to moderate bone loss. Accordingly, a provisional diagnosis of drug-induced gingival enlargement was given. For treatment, the drug indicated for epilepsy was substituted accordingly, followed by oral prophylaxis and gingivectomy.

Figure 1: Case 1: Intra oral photograph showing generalized gingival enlargement with inflamed and edematous gingiva. Malaligned dentition is also observed with poor oral hygiene.

2.3. Case 3

A 27-year-old female reported to the Department of Oral Medicine and Radiology with the chief complaint of bleeding and gingival enlargement in relation to the right mandibular posterior teeth since 2-3 months. The patient was in the third trimester of pregnancy. Intra-oral examination revealed localised Painless, soft and oedematous, fibrotic, Grade III enlargement of mandibular teeth (**Figure 3**). Provisional diagnosis of pregnancy-induced gingival enlargement was considered.

Figure 2: Case 2: Extraoral and intraoral views of a patient with drug-induced gingival enlargement. (Top left) Extraoral photograph showing facial features. (Top right) Orthopantomogram (OPG) showing generalized alveolar bone levels. (Bottom row) Intraoral photographs revealing generalized, firm, fibrotic gingival overgrowth involving both maxillary and mandibular arches, associated with poor oral hygiene.

2.4. Case 4

A 60 years oldmale reported to the Department of Oral Medicine and Radiology, K.D Dental College, Mathura, with the chief complain of gingival enlargement in relation with maxillary anterior region of teeth since 8-9 months. No pain or pus discharge was reported. No history of drug intake was reported that is known to provoke gingival enlargement, neither family history was present. Intra-oral examination revealed elevated, smooth, sessile growth covered by red haemorrhagic and compressible erythematous papules which are reddish pink in colour. Grade II enlargement present with maxillary anterior teeth extend from 11 to 21. IOPA Rreveals mild bone loss i.r.t 11 and 21. (**Figure 4**) Provisional Diagnosis is pyogenic granuloma i.r.t 11 and 21.BT,CT and CBC were done. Excisional biopsy was done. Microscopic studies revealed pyogenic granuloma.

Figure 3: Case 3: Intraoral photographs showing localized, fibrotic, and edematous gingival overgrowth in the right mandibular posterior region. The enlargement is associated with bleeding and inflammation. Clinical presentation is consistent with Grade III pregnancy-induced gingival enlargement observed during the third trimester.

Figure 4: Case 4: Intraoral photographs showing a smooth, sessile, erythematous, and hemorrhagic gingival overgrowth involving the maxillary anterior region (11–21). The lesion is consistent with a clinical diagnosis of pyogenic granuloma. Surgical excision was performed and histopathological confirmation was obtained.

2.5. Case 5

A 6-year-old female reported with the chief complain of gingival enlargement in relation to the maxillary and mandibular region of teeth since 3-4 months. The history of leukaemia was reported by the patient, for which she underwent chemotherapy. Intra-oral examination revealed swollen gingiva, shiny, pale pink in colour; firm in consistency with lobulated appearance, bleeding on probing is present. Pseudopockets were present. Petechiae were noted all over the body. Grade II enlargement was present with maxillary and mandibular teeth. OPG reveals mild bone loss (**Figure 5**). CBC and Peripheral blood smear were suggestive of a haematological disorder and haematological malignancy. Provisional diagnosis based on the clinical features of Leukemic Gingival Enlargement was established. Treatment of chemotherapy followed by the scaling & root planning was advised.

Figure 5: Case 5: Intraoral and extraoral photographs demonstrating generalized gingival enlargement, spontaneous bleeding, and pale, swollen gingiva suggestive of leukemic gingival enlargement. The tongue shows coating and pallor, and the lower limbs exhibit petechial spots—supporting systemic hematological involvement. Clinical diagnosis was consistent with leukemia-associated gingival changes.

Figure 6: Case 6: Extraoral and intraoral photographs of a patient with Neurofibromatosis type 1 showing multiple facial neurofibromas and ovoid, sessile gingival nodular enlargements with well-defined, non-ulcerated margins. Intraoral nodules are firm and non-tender, consistent with neurofibromatosis-associated gingival overgrowth. No radiographic abnormalities were observed

2.6. Case 6

A 60-year-old male reported with the chief complaint of lack of taste sensation and multiple growths of varying sizes nodules in the oral cavity and all over the body since 5 years. The history of neurofibromatosis type 1 since 30 years was reported. Intra-oral examination revealed sessile, ovoid-shaped nodules are present with elevated, smooth & well-defined margins with no discharge. Numerous sessile/pedunculated nodules were observed. Blood investigations and panoramic radiograph revealed no relevant findings (**Figure 6**). Provisional diagnosis of, based on clinical features, Neurofibromatosis associated Gingival Enlargement was given. Patient was advised for biopsy, oral prophylaxis & periodontal therapy.

Figure 7: Case 7: Extraoral and intraoral photographs of a patient with Neurofibromatosis type 1 showing multiple facial neurofibromas and ovoid, sessile gingival nodular enlargements with well-defined, non-ulcerated margins. Intraoral nodules are firm and non-tender, consistent with neurofibromatosis-associated gingival overgrowth. No radiographic abnormalities were observed

2.7. Case 7

A 14-year-old female patient reported with the chief complaint of gingival enlargement in the right maxillary anterior region of the jaw since 2 years. There was no history of drug intake that is known to provoke gingival enlargement, nor family history present. Intraoral examination revealed sessile, irregular-shaped growth present with elevated, smooth & ill-defined margins with blood discharge (**Figure 7**). Blood investigations were done. Panoramic and intraoral radiographic findings revealed mild bone loss with respect to 11, 12 and 13. For a provisional diagnosis based on clinical features, squamous cell carcinoma is considered. The patient was advised to get a biopsy done along with oral prophylaxis & periodontal therapy. Microscopic examination revealed well-differentiated Squamous Cell Carcinoma.

2.8. Case 8

An 18-year-old female patient reported with the chief complaint of gingival enlargement in the left mandibular region of jaw, which was reported to be slow-growing in nature for 2 years. There was no history of drug intake, which is known to provoke gingival enlargement, and family history was also not relevant. Intraoral examination revealed a solitary swelling, normal in colour, roughly oval in shape with well well-defined margin, smooth surface extending from 34,35 and 36 and approximately 2×1 cm. IOPAR and left side lateral mandibular occlusal radiograph revealed unilocular, unicorticated radiolucency w.r.t 34, 35 and 36. (**Figure 7**) Root fracture seen on the mesial root 36. Provisional diagnosis based on clinical features was established as False Gingival Enlargement. Biopsy was advised.

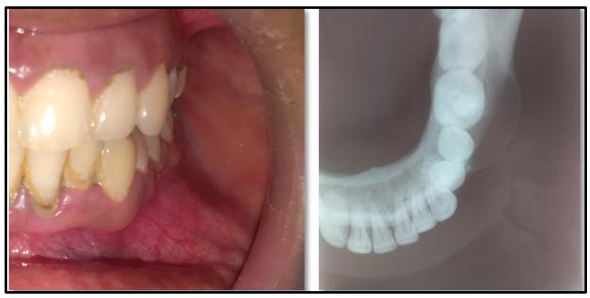

Figure 8: Case 8: Clinical and radiographic appearance of false gingival enlargement

3. Discussion

Even though gingival enlargements is associated with a myriad of etiology, it is possible to diagnose by a careful history (such as, drug influenced or hormonal influenced), by location (such as mouth-breathing enlargement involving

anterior teeth) or by the clinical presentation (like strawberry gingivitis). Presence of local irritants (plaque/calculus) could possibly be primary or associated cause of such gingival enlargements. Some unusual presentations of generalized gingival enlargementare rarely reported in conditions like amelogenesis imperfecta, Hashimoto's thyroiditis, I-cell disease or multiple myeloma. Therefore, plaque control is a vital aspect of management in all the patients. An excisional/incisional biopsy and/or hematologic/histologic examination may be required occasionally for correct diagnosis in such uncommon cases of gingival enlargement. Open minded consideration of all possibilities is necessary before arriving at a final diagnosis of the condition.

Marginal and interdental gingival inflammation should be treated at an appropriate time with simple scaling and root planning. It is of prime importance to properly diagnose gingival enlargement associated with any systemic cause, to approach therapeutic and surgical procedures according to the etiology of the disease. These reports highlight the importance of diagnosis, management and motivation of the patient. For the predictable outcomes oral hygiene motivation should be started at the initial stages of treatment itself. Minimum of one year follow up for the patient is a must for evaluation of the tissues and for proper oral hygiene maintenance.[5-7]

4. Source of Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

5. Conflict of Interest

There are no conflicts of interes.

References

1. Pollack RP. Neurofibroma of the palatal mucosa. A case report. J Periodontol. 1990;61(7):456–8
2. Fermin A. Carranza (9th edition), gingival enlargement, Rev. Ed. of: Clinical periodontology/ [edited by] Fermin A. Carranza, Jr., Michael G. Newman. 8th ed. ©1996. clinical periodontology; Printed in the United States of America.
3. Glickman I, A Basic Classification of "Gingival Enlargement". The journa l of periodontology. J Periodontol. 1950;21(3):131–9.
4. Mani A, Pendyala G, Maniyar SD. Inflammatory gingival enlargement and management: a case report. Galore Int J Health Sci Res. 2018;3(4):16–9.
5. Agrawal AA. Gingival enlargements: Differential diagnosis and review of literature. World J Clin Cases. 2015;3(9):779–88.
6. Babu NA. Gingival Enlargement- Systemic Causes. Euro J Mol Clin Med. 2020;8260;7(5):
7. Greenberg M, Glick M, Burkett's oral medicine Diagnosis and treatment; tenth edition; BC Decker Inc. 2003. https://rlmc.edu.pk/themes/images/gallery/library/books/dental/%5BLester_William_Burket,_Martin_S._Greenberg,_Micha(BookFi).pdf
8. Lager I, Altini M, Coleman H, Ali H. Oral Kaposi's sarcoma: a clinicopathologic study from South Africa. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2003;96(6):701–10.

Cite this article: Kumari N, Lahori M, Mohan V, Gaur A, Sisodiya S, Khan B. Gingival enlargement: A report of eight cases with varied aetiology. *J Pierre Fauchard Acad*. 2025;39(1):31-35.