



GINGIVAL ENLARGEMENT: A BRIEF REVIEW

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ABSTRACT

Dental plaque-related inflammation and medication use are predominantly linked to gingival expansion, an anomalous growth of periodontal tissue. Its true prevalence in the populace is unclear. Periodontal diseases, discomfort, bleeding, and cosmetic alterations are all brought on by gingival expansion. This article aims to consolidate the various forms gingival enlargement can take, inception, induction and management.

KEYWORDS: Gingival enlargement, Inflammation, Drug induced gingival enlargement

INTRODUCTION

Primary characteristic of gingival illness known as gingival enlargement or gingival overgrowth is an increase in gingiva size. Finding the cause of the enlargement with precision is necessary for effective care. Enlargements might be widespread, papillary, or marginal, depending on where they are located. They can be localized or generalized based on dispersion [1].

Localized gingival enlargements are a subset of epulides that may be distinguished from plaque-induced inflammatory enlargements clinically by a variety of characteristics. With this differentiation, a clinical diagnosis is possible and a treatment plan that aims to reduce recurrence can be defined [2].

Various factors can cause gingival hyperplasia/enlargement.

AETIOLOGY OF GINGIVAL ENLARGEMENT

- Changes in chronic inflammation are atypical in patients suffering from gingival overgrowth.
- Persistent dental plaque exposure or localised trauma [3] may also lead to gingival enlargement.
- Additionally, individuals who breathe from mouth and those with incompetent lips, both have experienced gingival growth brought on by persistent inflammation [4]. An ill-fitting denture's borders can cause FIH, which is known as denture-induced.
- A minor ulcer may first develop, which might progress to inflammatory hyperplasia because of repeated irritation from the flange.
- It frequently appears as folds, an elevated, sessile mass with a smooth surface and normal mucosa colouring. [5].

GINGIVAL OVERGROWTH ATTRIBUTED TO DRUGS

Contrary to popular belief, some medicines too may be responsible for gingival overgrowth, the three main such types of medicines are :

- calcium channel blockers
- anticonvulsants
- immunosuppressants

These work by inhibiting intracellular calcium ion influx at the cellular level.[6]. Gingival expansion typically manifests within 1-3 months of beginning therapy with the above mentioned drugs.

Inception entails a teardrop-like expansion of the interdental papilla and progresses to the gingival edges of the lingual and face teeth. The marginal and papillary enlargements combine as the illness worsens; they may eventually grow into a huge tissue fold that covers a sizable amount of the crowns.

Plaque management becomes challenging in the presence of enlargement, frequently leading to a secondary inflammatory reaction that exacerbates the drug-induced gingival overgrowth. In addition to enlarging the drug-induced lesion, secondary inflammatory alterations can result in a red or blue red colouring, which erase the surface demarcations of lobules, and make bleeding more likely[7].

Calcium Channel Blockers

Gingival enlargement is the most attended side effect of Nifedipine an example of one such calcium channel blockers first reported in the 1980s [8]. It's dosage also affects the manifestation of gingival enlargement. Nifedipine affects homeostasis of collagen. High plaque index teeth are crucial to the pathophysiology and development of the disease[9].

Other types of calcium channel blockers which cause gingival enlargement are :

- Amlodipine
- Diltiazem
- Felodipine
- Isradipine

Anticonvulsants

It is an established fact that anticonvulsant drug causes gingival enlargement Phenytoin is one such example. The papillary area is where this drug-induced overgrowth is first detected, but as it progresses, it also affects the margins and the gingival attachment.

As the tissue grows, it takes on a distinctively lobulated and thicker look, sometimes covering the tooth surfaces partially or occasionally entirely.

Depending on how much inflammatory infiltration is present in the tissues, the colour can range from pink to a deep blue red, and subsequent inflammation can lead to oedema, ulcerations, and bleeding. The incidence rate of phenytoin-induced gingival overgrowth ranges from 3% to 93%, but 50% of patients on long-term therapy are prone to develop gingival overgrowth[10]

Other types of anticonvulsants are:

- Valproic acid
- Carbamazepine
- Vigabatrin

Immunosuppressants

25-30% of patients taking cyclosporine A, which is a type of immunosuppressant suffer from gingival enlargement.

Other types of immunosuppressants are:

- Tacrolimus
- Serolimus
- Mycophenolate mophetil

Periodontal disease can also be brought on by medication-induced gingival overgrowth. Patients must be informed of the potential for this impact and reminded of the value of practising proper dental hygiene as a preventative step [11].

Therefore, it would be important to recognise and research any potential risk factors for the prevalence and seriousness of drug-induced gingival overgrowth.

Systemic Diseases

Leukaemia

The widespread infiltration of leukemic cells in the gingival connective tissue is the cause of the generalised gingival hypertrophy linked to leukaemia. [12].

Clinically, it could look like an inflammatory aetiology

Clinical features :

- Gingival enlargement may be diffuse or marginal, localized or generalized tumor-like mass in the interproximal area.
- The firm, friable, red, and hemorrhagic
- Painful necrotizing ulcerative inflammation

Wegener's Granulomatosis:

Since Wegener's syndrome is a systemic granulomatous illness that can affect the respiratory system, kidneys, heart, neurological system, among other organs, it is somewhat comparable to sarcoidosis[13]. Strawberry gingivae is how it typically manifests[14].

Clinical features

- oral mucosal ulceration
- gingival enlargement
- abnormal tooth mobility
- exfoliation of teeth
- delayed healing response.
- The granulomatous enlargement is reddish-purple and bleeds easily.

Crohn's disease

The gingiva becomes pink, firm and is almost leathery in consistency, with a characteristic minutely pebbled surface.

Sarcoidosis

Being a multiorgan disorder, sarcoidosis may affect any organ, including the gingiva. It appears in form of a smooth, red and a painless enlargement.

Sturge-Weber syndrome

It is an uncommon congenital condition that results in facial abnormalities, including enlarged gingiva.

Malignant neoplasms like malignant melanoma, hodgkins lymphoma, squamous cell carcinoma are some other examples of systemic diseases causing gingival enlargement.

IDIOPATHIC CAUSES

- Pregnancy induced hyperplasia: The gingiva has a higher level of inflammation, which is frequently characterised by edoema, a change in colour and shape, and a tendency to bleed when gently stimulated, with a likelihood of between 35 and 100% [15].

- Puberty induced hyperplasia: In pubertal age, it is an inflammatory kind of gingival hypertrophy that affects both boys and girls. Primarily interdental and marginal gingiva are affected. It is distinguished by its interproximal bulbous papilla [16].

CONCLUSION

Effective therapy hinges on correctly identifying the reason of gingival expansion, which is a frequent occurrence in clinical practice. Gingival enlargement may be exacerbated by hormonal changes, such as those that occur during puberty and pregnancy, as well as by some systemic drugs.

This expansion was thought to be caused by an excessive gingival reaction to local plaque and calculus irritation, which resulted in an overgrowth of periodontopathic bacteria and the loss of alveolar bone [17].

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