



GINGIVAL ENLARGEMENT

Gingival (Gum) enlargement, also known as **gingival hyperplasia** or hypertrophy, is an abnormal overgrowth of gingival tissues.



CLASSIFICATION :

1. Inflammatory Enlargement :

- a) Chronic
- b) Acute

2. Drug Induced Enlargement

3. Enlargements associated with systemic diseases :

a) Conditioned Enlargement :

Pregnancy

Puberty

Plasma Cell gingivitis

Vitamin C deficiency

Non-Specific Conditioned Enlargement



b) Systemic diseases causing gingival enlargements

Leukemia

Granulomatous diseases

4. Neoplastic Enlargements (Gingival Tumors)

Benign

Malignant

5. False Enlargement

According to Location & Distribution :

- **Localized** : Limited to one or more (group of) teeth
- **Generalized** : The gingiva is enlarged in the entire mouth
- **Marginal** : Limited to the Marginal gingiva
- **Papillary** : Confined to the Interdental papilla
- **Diffuse** : Involves all the parts of gingiva
- **Discrete** : Isolated sessile or pedunculated tumor-like enlargement

According to the Degree of Gingival Enlargement :

- **Grade 0** : No signs of gingival enlargement
- **Grade 1** : Enlargement confined to the **interdental papilla**
- **Grade 2** : Enlargement involving **papilla & marginal gingiva**
- **Grade 3** : Enlargement covering **three quarters or more of the crown**





Acute Inflammatory Enlargement : (Gingival Abscess)

It is a localized , painful , rapidly expanding lesion that is usually sudden in onset

Etiology :

- Bacteria being carried deep into the tissues when foreign substances like toothbrush bristle or food fragments are embedded into the gingiva

Signs & Symptoms :

- Rapidly expanding lesion limited to marginal & interdental gingiva
- Red Swelling with a smooth shiny surface --- quite painful
- Associated teeth are sensitive to percussion
- Fluctuant lesion with pointed surface orifice
- Purulent exudate

Histopathology :

- Diffuse infiltration of PMNLs (Polymorphonuclear leukocytes)
- Edematous tissue and vascular engorgement
- Ulcerated surface epithelium
- Intra and Extra Cellular Edema invaded by leukocytes

Treatment :

- The abscess should be removed
- Drainage can be established by warm saltwater mouthwashes
- Curettage under LA
- Incision is required if it is pointing
- Removal of residual pocketing by localized gingivectomy or subgingival curettage



Chronic Inflammatory Enlargement :

Etiology :

- Poor oral hygiene
- Abnormal relation of Adjacent tooth
- Lack of tooth function
- Overhanging Restoration
- Food Impaction
- Irritation from removable prosthesis
- Nasal Obstruction'
- Habits such as mouth breathing or tongue thrusting

Clinical Features :

- Slight ballooning of interdental papilla & marginal gingiva
- Progresses slowly & painlessly
- Discrete , sessile, or pedunculated mass resembling a tumor
- Lesions are slow growing masses
- Lesions undergo spontaneous reduction in size
- Painful Ulcerations may be seen



Treatment :

- Scaling & Curettage
- Surgical removal : Gingivectomy & Flap operation

DRUG INDUCED GINGIVAL ENLARGEMENT

Gingival Enlargement may occur due to the intake of certain drugs like Phenytoin , Cyclosporin and Nifedipine , Diltiazem , Verapamil, Sodium Valproate .

Basically **Anticonvulsants , Immunosuppressants , Calcium Channel Blockers , Antibiotics** like Erythromycin , **CNS Stimulants** and **Drugs used in thyroid therapy** like Eltroxin are implicated in gingival overgrowth.

Phenytoin Induced Gingival Overgrowth : (Used in Epilepsy , Trigeminal & Glossopharyngeal Neuralgias)

- Overgrowth becomes apparent in the first 3 months
- Painless , bead like enlargement of the facial & lingual margins & interdental papillae
- Massive tissue fold covering the crown thus interfering in Occlusion



- Mulberry – shaped lesion, which is firm , pale pink and resilient
- Lobulated surface
- No bleeding tendency
- Enlargement is separated from the gingival margin by a linear groove
- Generalized hyperplasia
- Secondary inflammatory process produces red or bluish-red discoloration resulting in increased tendency to bleed



Histopathological Features :

- Acanthosis with elongated , thin rete pegs / ridges seen in the epithelium
- **Increased incidence of epithelial pearls**
- Proliferation of Fibroblasts in Lamina Propria
- Increase in Collagen production

Pathogenesis :

- Major metabolite of Phenytoin is 5-Parahydroxy phenyl 5-phenylhydantoin (5-p-HPPH)
- Fibroblasts synthesize huge amount of protein & collagen



- Hassell suggested that high activity fibroblasts become sensitive to phenytoin with subsequent increase in collagen production

Cyclosporine Induced Gingival Enlargement :



- Cyclosporine is a potent immunosuppressive agent
- It selectively inhibits T-helper cells which are involved in cellular & humoral immune responses
- **Clinically the signs & symptoms of cyclosporin induced enlargement are like those of Phenytoin induced gingival enlargement**

Nifedipine :

- It is a Calcium Channel Blocker
- It reduces hypertension by dilating the peripheral vasculature
- Gingival overgrowth occurs in 20% of the cases



Treatment of Drug Induced Gingival Overgrowth :

- Oral hygiene reinforcement
- Chlorhexidine gluconate rinses
- Scaling & Root planing
- Drug substitution
- Gingivectomy (Where there is no attachment loss / bone loss)
- Periodontal Flap surgery (In cases of Osseous Defects)
- Professional Recalls

Idiopathic Gingival Fibromatosis :

Synonyms : Gingival mitosis , Elephantiasis gingivae , Diffuse fibroma , Idiopathic fibromatosis , Gingival hyperplasia & Congenital familial fibromatosis



Etiology :

- Hereditary
- Tuberous Sclerosis (Triad of Epilepsy , Mental deficiency & Cutaneous Angiofibromas)

Clinical Features :

- Affects attached gingiva , interdental papilla
- Firm , pink & leathery gingiva having a pebbled appearance
- The teeth are almost covered completely
- Enlargement may project into the oral vestibule
- Jaws appear distorted
- Secondary inflammatory changes may be seen at the gingival margins



Histopathology :

- Acantholytic , thickened epithelium with elongated rete pegs
- Increase in connective tissue
- Densely arranged collagen fiber bundles and numerous fibroblasts are seen



Combined Enlargement :

- Results when gingival hyperplasia is complicated by secondary inflammatory changes
- Consists of two components : Primary or Basic hyperplasia of connective tissue and epithelium ; Secondary complicating inflammatory component

Treatment :

- Gingivectomy / Gingivoplasty is highly recommended



Conditioned Enlargement :

- **Hormonal (Pregnancy , Puberty)**
- **Nutritional (Vitamin C Deficiency)**
- **Allergic**

NOTE : Local irritation is necessary for the initiation of this type of enlargement

It occurs when the systemic condition of the patient exaggerates the usual gingival response to dental plaque



Enlargement during Pregnancy / Pregnancy Tumor : (Angiogramuloma)

- Discrete mushroom like flattened spherical mass protruding from the interdental papilla
- Sessile / Pedunculated base
- Expands laterally
- Flattened appearance
- **Dusky red / magenta coloured with smooth glistening surface**
- Semi firm in consistency
- Usually painless
- Ulcerations may occur

Histopathology :

- Stratified Squamous epithelium
- Fibrous stroma with varying degrees of edema & leukocyte infiltration
- Prominent Rete Pegs in the epithelium

Treatment :

- Plaque Control
- Scaling & Root planing
- Curettage
- Surgical Excision of the tumor mass

NOTE :

- **Supine Hypotensive Syndrome :** It occurs during the third trimester characterized by decreased blood pressure , syncope & loss of consciousness



- **Appointments should be kept short and the patient should be allowed to change his /her position frequently**
- **Fully reclining positions should be avoided**
- **The second trimester is the safest time in which treatment can be performed**



Enlargement in Puberty :

Clinical Features :

- Prominent bulbous interproximal papilla
- Only the facial gingiva is affected
- Age group of 11-17 years show high prevalence
- Capnocytophaga is responsible for the initiation of pubertal gingivitis

Treatment :

- Oral hygiene instructions
- Scaling & Root planing'
- Surgical removal
- Gingival Curettage



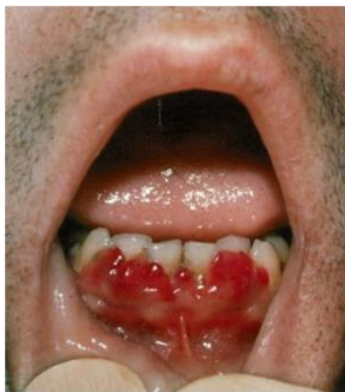
Vitamin C Deficiency :

Clinical Features :

- Bluish-red soft marginal gingiva
- Friable with smooth & shiny surface
- Hemorrhage may be seen

Histopathological Features :

- Areas of hemorrhage with engorged capillaries
- Marked diffused edema
- Collagen degeneration
- Scarcity of collagen fibers & fibroblasts



Plasma cell gingivitis :

- Also termed as Atypical & plasma cell gingivostomatitis
- Red , friable, and bleeding marginal gingiva
- Allergic in origin , Connective tissue contains plasma cells extending till the epithelium



Granuloma Pyogenicum :

- Non-specific conditioned enlargement
- Discrete , spherical tumor-like mass with a pedunculated base
- Bright red / purple , friable or firm
- Surface ulceration & purulent exudation may be seen
- The lesion may become a fibroepithelial papilloma

Histopathology :

- Mass of granulation tissue with chronic inflammatory cellular infiltration
- Exudation
- Surface ulceration

Treatment :

Removal of the lesion along with the elimination of local irritating factors





Gingival Enlargement seen in Leukemia :

- Diffuse or marginal
- Localized or Generalized
- Bluish-red with a shiny surface
- The consistency is firm
- Friable with spontaneous hemorrhage
- ANUG may be seen
- Occurs in Acute Leukemia



Treatment :

- Scaling & Curettage
- Antibiotics
- Refer the patients to the physicians
- Complete Periodontal treatment plan should be prepared before chemotherapy
- Monitor hematological lab reports / values
- Extraction of all hopeless teeth
- Thorough periodontal debridement
- Cotton pellets soaked in Hydrogen Peroxide can be used in case of severe bleeding



- **In case of an abscess with regional lymphadenopathy, systemic antibiotics , gentle incision & drainage , cleansing of the area with 3% H₂O₂ and applying topical pressure with gauze for 15-20 min is advised.**

Wegener's Granulomatosis :

- Characterized by a granulomatous necrotizing lesion of the respiratory tract and oral defects
- Oral mucosal ulceration
- Gingival enlargement
- Abnormal tooth mobility
- Delayed healing response
- Enlargement is reddish-purple in colour and bleeds profusely

Sarcoidosis :

- Unknown etiology
- Affects 2nd and 3rd decade of life
- Red smooth gingival enlargement is seen

False Gingival Enlargement :

- Occur because of **increase in size of underlying osseous / dental tissues** like Paget's disease , fibrous dysplasia , cherubism, central giant cell granuloma and osteosarcoma.
- Seen during various stages of eruption especially primary dentition
- Labial gingiva- bulbous marginal distortion called developmental enlargement occurs persists until junctional epithelium has migrated from enamel to CEJ
- Physiologic in nature
- It is complicated by marginal inflammation.

