



Fig. 1.5: Shape of interdental papilla. (a) Pyramidal in anterior; (b) Flattened in posterior

4. *Shape:* It is governed by contour of proximal tooth surface and location of gingival embrasure (Fig. 1.5).
 - a. Pyramidal interdental papilla—anterior
 - b. Flattened molar region
5. *Consistency:* Firm and resilient in healthy gingiva. This is attributed to collagenous nature of lamina propria (connective tissue layer) and its contiguity with mucoperiosteum of bone.
6. *Surface texture:* Stippled (orange peel) is seen in healthy gingiva.
 - a. Stippling is seen in attached gingiva and core of interdental papilla.
 - b. Appears at 5 years of age and disappears in old age.
 - c. It is a form of adaptive specialization or reinforcement of function. Loss of stippling is a common sign of gingival disease.

Note: Various theories for the appearance of stippling have been proposed. Most accepted is that it is produced by the projection of papillary layer into the elevations and depressions of epithelium of gingival surface.

7. *Position:* Level at which gingival margin is attached to the tooth surface.

- b. Generalized form: <30% of sites involved
- c. Slight: 1–2 mm of clinical attachment loss (CAL)
- d. Moderate: 3–4 mm CAL
- e. Severe: >5 mm of CAL

II. **Aggressive periodontitis:** Characteristics of aggressive periodontitis patients are:

1. Otherwise **clinically healthy patient**
2. **Rapid attachment loss and bone destruction**
3. **Amount of microbial deposits inconsistent with disease severity**
4. Familial aggregation of diseased individuals—A few characteristics which are common but not universal.
5. **Diseased sites infected with *Aggregatibacter actinomycetemcomitans*** (previously called *Actinobacillus actinomycetemcomitans*)
6. Abnormalities in phagocyte function
7. Hyperresponsive macrophages producing increased prostaglandin and interleukin
8. Self-arresting disease progression (in some cases)

Aggressive periodontitis has been further classified as given in Table 2.2.

Table 2.2: Classification of aggressive periodontitis

<i>Localized form</i>	<i>Generalized form</i>
1. Circumpubertal onset of disease	Usually affecting persons under <30 yrs of age
2. Localized first molar or incisor disease	Generalized proximal attachment loss
3. Proximal attachment loss on at least two permanent teeth, one of which is a first molar	Proximal attachment loss affecting at least three teeth other than first molar and incisors
4. Robust serum antibody response to infecting agents	Poor serum antibody response to infecting agents Pronounced episodic nature of periodontal destruction

Note: The difference between chronic and aggressive periodontitis highlighted in bold points.

Note: Role of ascorbic acid in periodontal disease has been hypothesized due to following reasons (Wolfe et al, 1980):

- a. Affected metabolism of collagen—affects the ability of tissues to regenerate and repair.
- b. Interference with bone formation—osteoclastic resorption. Not associated with periodontal pocket formation.
- c. Ascorbic acid deficiency increases the permeability to tritiated endotoxin and inulin. Epithelium barrier function is disrupted.
- d. Impairs the bactericidal activity of leukocytes
- e. Deficiency disrupts the integrity of periodontal microvasculature and vascular response to plaque.
- f. Interference with the ecological equilibrium of bacteria in plaque and increases its pathogenicity.

Clinical manifestations: Hemorrhagic lesions into muscles of extremities, joints, nail beds, petechial hemorrhages, increased susceptibility of infections, and sluggishness of blood flow, impaired wound healing.

Gingival manifestations: Bleeding swollen gingiva (boggy gums) characterized by bluish red, smooth shiny and friable surface, loosened teeth.

D. Plasma cell gingivitis: Considered to be allergic in origin. Related to components of chewing gum, dentifrices, and various diet components.

Clinical Note

Plasma cell gingivitis presents as localized lesion in oral aspect of attached gingiva. This is the main difference from plaque-induced gingivitis.

E. Pyogenic granuloma (Fig. 3.5): It is a tumor-like enlargement that is considered an exaggerated response to minor trauma. Its treatment is excision of the lesion along with elimination of irritating local factors.

V. Systemic Diseases that Cause Gingival Enlargement

Leukemic enlargement: Leukemia affects all cells of the body resulting in leucopenia, anemia, and thrombocytopenia. Leukemic cells, which are accumulation of immature blast cells, frequently

- complications. Instructions for 3% hydrogen peroxide rinses and 0.12% chlorhexidine rinses twice daily.
- b. *Second visit:* Performed after 1–2 days of initial visit. Shrinkage of gingiva is seen, scaling is done to remove the previously covered calculus.
 - c. *Third visit:* At 5 days after second visit. Scaling and root planing is done. Patient instructed on nutrition and smoking cessation. Hydrogen peroxide rinses are discontinued. Appointments scheduled for treatment of periodontal pockets and eliminate local sources of irritation.

Primary Herpetic Gingivostomatitis

Clinical features: Infection of the oral cavity caused by herpes simplex virus type I.

- a. Asymptomatic primary infection
- b. Secondary manifestations: Herpes labialis, herpetic stomatitis, herpetic genitalis, ocular herpes and herpetic encephalitis.
- c. Characteristic features are vesicles which rupture to form small, painful shallow ulcers. Primary herpetic gingivitis usually may occur without overt vesiculation.
- d. Characteristic symptom: Generalized soreness of the oral cavity which interferes with eating, drinking and oral hygiene.

Histology: Tzank cells (epithelial cells which show ballooning degeneration).

Treatment: An antiviral medication alters the course of the disease.

Note: Difference between herpetic ulcers and aphthous ulcers is that the diffuse involvement of gingiva does not occur in aphthous ulcers. Primary herpetic gingivostomatitis is contagious.

Pericoronitis (Fig. 4.1)

Inflammation of the gingiva in relation to the crown of an incompletely erupted tooth.

Operculum: Space between crown and overlying gingival flap.

Complications: Pericoronal abscess, oropharyngeal infection, peritonsillar abscess, cellulitis, Ludwig's angina.