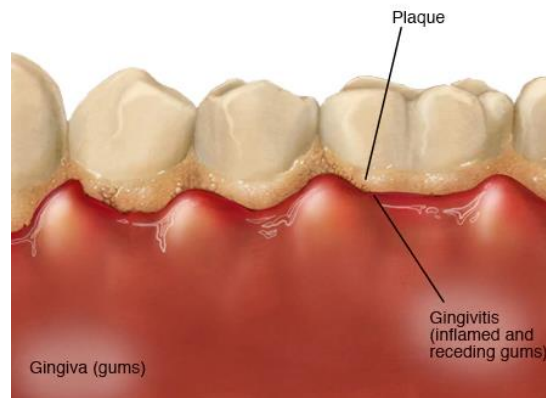




GINGIVAL INFLAMMATION

Inflammation is defined as an observable alteration in tissues associated with changes in vascular permeability and dilation, often with the infiltration of leukocytes into affected tissues. These changes result in erythema, edema, heat, pain, and loss of function which are the cardinal signs of inflammation.

Gingivitis means inflammation of the gums, or gingiva. It commonly occurs because a film of plaque, or bacteria, accumulates on the teeth. **Gingivitis** is a non-destructive type of periodontal disease, but untreated **gingivitis** can progress to periodontitis.



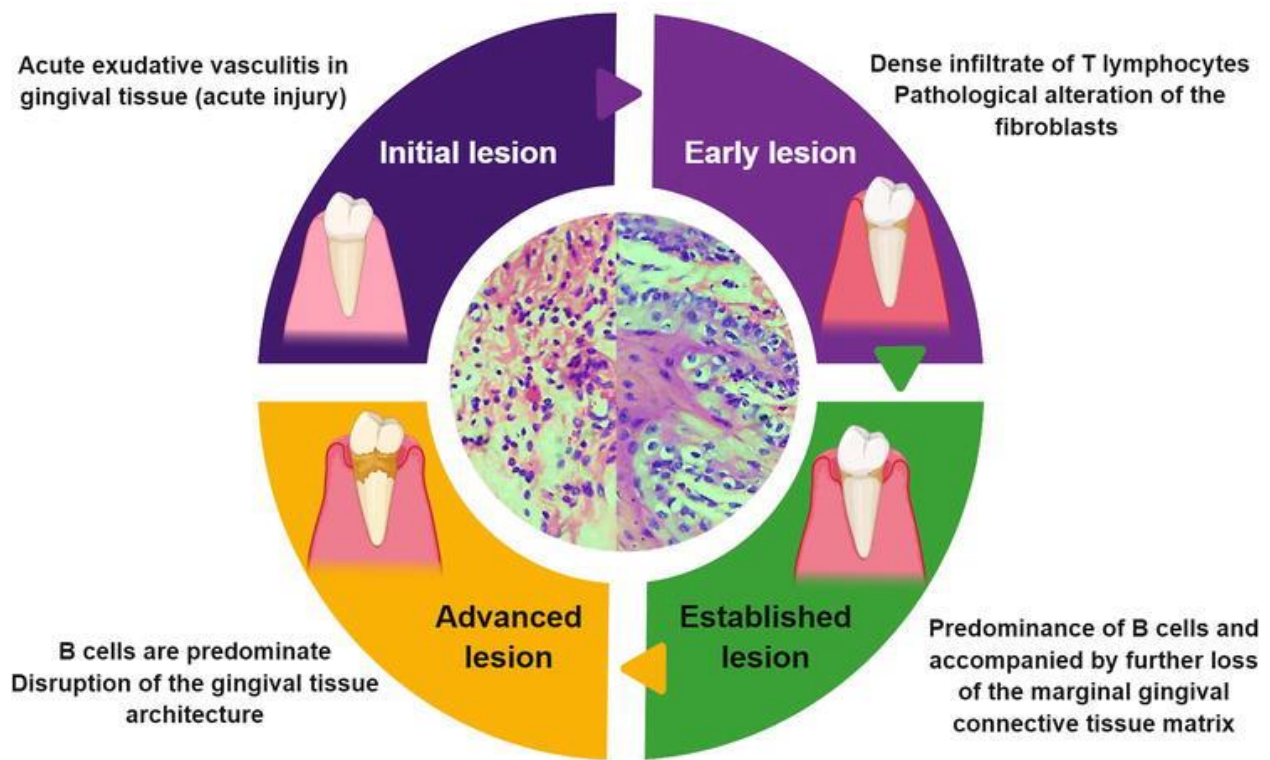
The Sequence of events during the development of gingivitis can occur in four different stages:

Stage I Gingivitis: The Initial lesion {2-4 days}

- No visible clinical changes are seen except the presence of exudation of fluid from the gingival sulcus
- Vasculitis of vessels near the junctional epithelium
- **Changes are seen in the coronal portion of the junctional epithelium**



- Increased migration of leukocytes into the junctional epithelium and gingival sulcus
- Presence of serum proteins
- Loss of perivascular collagen
- **Also called Subclinical gingivitis**

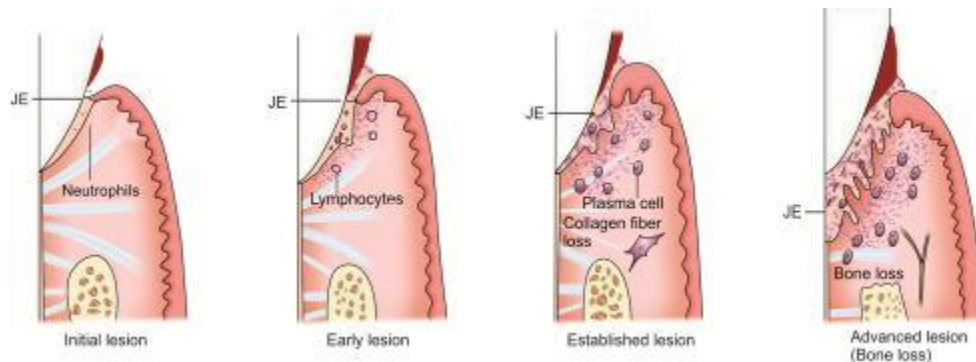


Stage II Gingivitis: The Early Lesion {4-7 days}

- Erythematous gingiva
- Bleeding on probing
- **Development of Rete Pegs / Ridges in the junctional epithelium**
- Accumulation of Lymphocytes is seen



- Loss of Collagen fiber network
- Fibroblasts show cytotoxic alterations
- Decreased capacity for collagen production
- Vascular proliferation

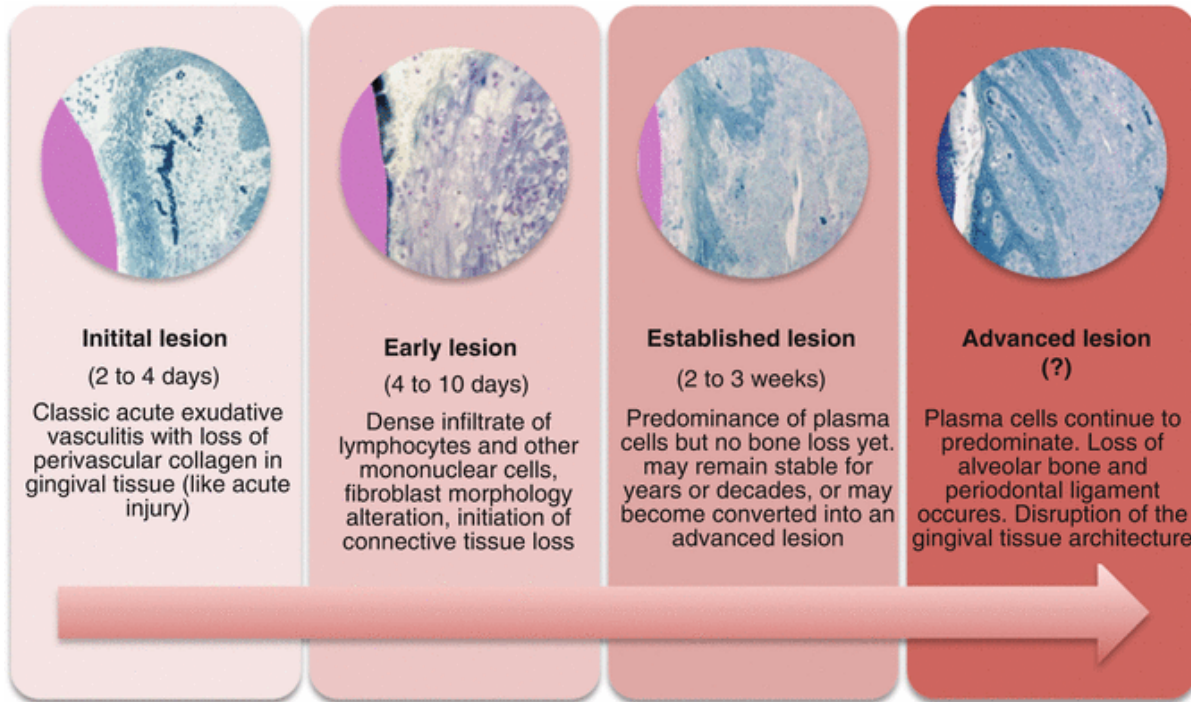


Stage III Gingivitis: The Established Lesion {14-21 days}

- A bluish hue on the reddened gingiva
- Impaired venous return
- Moderately to severely inflamed gingiva
- Predominantly plasma cells are seen which invade the epithelium
- Proliferation, apical migration & lateral extension of the junctional epithelium is seen
- Early pocket formation may/may not be present
- Collagen destruction
- Continued loss of connective tissue substance
- **Increased acid and alkaline phosphatase, β -glucuronidase & aminopeptidase**

Stage IV Gingivitis: The Advanced Lesion

- Extension of the lesion into the alveolar bone & PDL
- **Significant amount of bone loss**



- Continued loss of Collagen
- Formation of Periodontal Pockets
- Conversion of bone marrow into fibrous tissue
- Presence of all types of inflammatory cells

To Summarize:

Clinically:

Pristine Condition



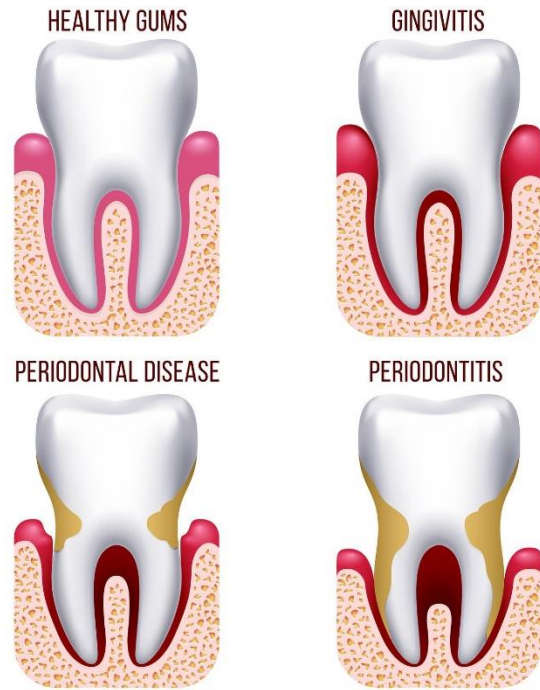
Clinically Healthy



Early Gingivitis



Chronic Periodontitis



Histologically:

Health



Initial Lesion



Early Lesion



Advanced lesion
