



***PULP DISEASE***

# PULPITIS

The dental pulp is the loose C.T., containing blood vessels, lymphatic, nerves & undifferentiated C.T. cells.

**Pulpitis: an inflammation of the pulpal tissue that may be reversible or irreversible.**

**Like any another C.T. is characterized by redness, swelling, fever, pain.**

**\*However, is a unique one ,why**

1-surrounded by hard tissue

2-small apical foramen

**\*ETIOLOGY**

1-bacterial cause: caries, fracture, bacteremia, periodontal pocket

2-physical cause: sever thermal change (cavity preparation), large metallic restoration

3-trauma: from occlusion, like attrition or accident

4-chemical cause: filling (amalgam, composite), bases, disinfectant, eugenol

# Classification of pulpitis

## Classified into

- 1-Reversible pulpitis(hyperemia)
- 2-Acute pulpitis
- 3-Chronic pulpitis
- 4-pulp polyp (chronic hyperplastic pulpitis)

## *1- Reversible pulpitis*

### Clinically

- 1-sharp pain & respond to sudden changes in temperature
- 2-pain disappear as the stimuli removed
- 3-last less than 20 min.
- 4-easily localized & unaffected by body position

## \*Histopathology:

show dilatation of blood vessels(hyperemia)with RBC &WBC extravasations &edema

## \*Treatment

protection of the pulp from further stimulation,& placing sedative dressing for several weeks



**2- Acute pulpitis:** may occur as a sequel of focal reversible pulpitis or occur due to acute exacerbation of chronic pulpitis

## clinically

*1-occurs in a tooth with large carious lesion or defective margin of a restoration*

*2-pain is less intense than of reversible pulpitis*

*3-pain will be spontaneous & continuous, even when stimuli removed*

*4-pain lasts for a prolonged period, longer than 20 min.*

*5-difficult to localized, & the pain initiated when the patient reclines (sleep) duo to increase blood pressure.*

# *Histopathology*

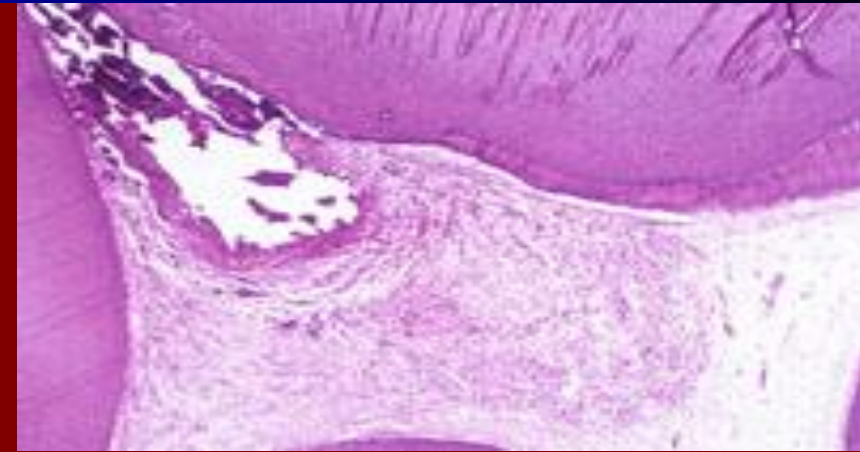
- 1-Show, vascular dilatation, edema & high amount of bacteria with PML which lead to abscess formation by the macrophage action
- 2-odontoblast undergo degeneration at the area of inflammation

**Treatment:** pulpatomy, root canal, extraction

**3- Chronic pulpitis:** develop as a result of acute pulpitis, or develops as chronic once

## **Clinically**

- 1-spontaneous dull , itching pain
- 2-increased pain threshold (need strong stimuli) due to degeneration of the nerve fibers
- 3- the pain lasts for about 2 h.



**Histopathology: show**

**1-infiltration of pulp by various amount of chronic inflam. cells mainly lymphocytes & plasma cells**

**2-dilatation of capillaries & collagen fiber formation around the inflamed area.**

**Treatment:**

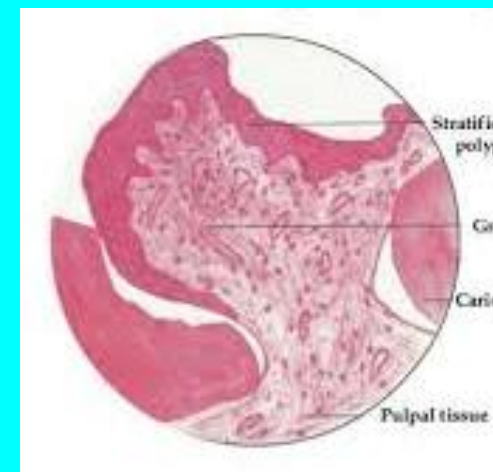
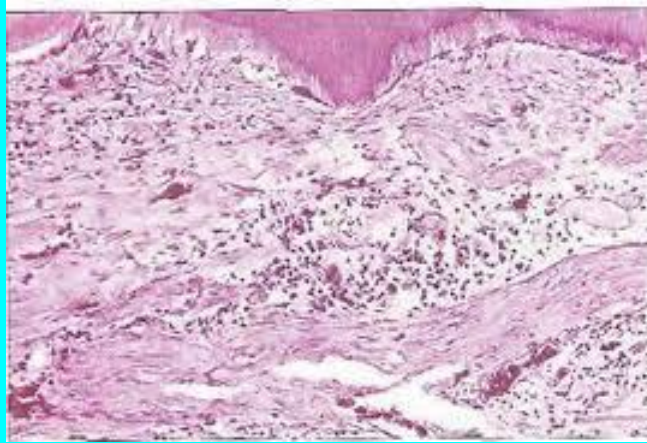
**Root canal or extraction**

**4- Chronic hyperplastic pulpitis:** is a rare condition that is confined to the molars of children. It result from acute caries in young teeth that rapidly reaches the pulp before it becomes completely necrotic

## Clinically:

- 1-polyp in the center of the tooth cavity
- 2-occurs in a tooth with large carious lesion
- 3-not sensitive to touch, due to little nerves in hyperplastic tissues
- 4-bleed easily
- 5-may confused with hypertrophic gingival polyp





## **Histopathology:**

1-the polyp is a mass of granulation tissue

2-sometimes, the polyp covered by a layer of stratified sq. epith.

Treatment:

Root canal or extraction