 

**Oral Pathology**

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**Lecture 3** Dental caries

**Lec. 3 ORAL PATHOLOGY Dr. Muna**

Dental caries

**Definition**: is a bacterial disease of the calcified tissues of the teeth characterized by demineralization of the inorganic and destruction of the organic substances of the tooth.

\*(bacterial disease): this means microorganisms are needed to cause this disease

**Dental caries is a multifactorial disease which depend upon the inter- relation of three main groups of factors:**

1. Dental plaque (microbial)

2. Carbohydrate (substrate) By time

3. Susceptible teeth (host factors)





**Clinical feature**: as the caries lesion develops resulting what is commonly called cavities , which are holes in the teeth , this damage first affects the hard tissues of the teeth (enamel,dentine,cementum),varying amounts of the function tooth structure are lost ,if not treated destruction progress lead to pulp necrosis . patient often present with pain,sensitivity upon chewing on the affecting side,swelling,periapical pathology ,the tooth requires extraction or root canal therapy.

**Diagnosis of dental caires**

1-mirror

2-explorer(probe)

3-light

4-x-ray

**Classification: caries can be classified by**

**1-location:**

A\_ pit and fissure caries

B\_ smooth surface caries

**A- Pit and fissure caries**: are mostly located on the occlusal of the posterior teeth and palatal surface of maxillary anterior teeth, this represent 90% of all dental caries, the pattern of decay describe as two triangle (one triangle in enamel and another in dentine) with their base conjoined to each other at DEJ,{Base to Base pattren } this base pattern is typical to pit and fissure caries.\*(CL I)





**B-smooth surface caries**: {base to apex pattern}three types

1. Proximal caries: CI II,III,IV or inter proximal caries form on the smooth surface between adjacent teeth,{Base to apex pattren }

2. Root caries: on root surface.

3. Other smooth surface: caries near the gingiva, on the facial or lingual surface class V or cusp tip or incisial edges class VI.

**2\_Etiology:**

A- Baby bottle tooth decay → affected anterior maxillary deciduous (baby) teeth (rampant caries)

B- Drug induced caries (Drug induced dry mouth)

C- Radiation induced caries (xerostomia)

**3\_Rate of progression:**

A- Acute caries→ quickly developing

B- Chronic caries → extended time to develop

C- Recurrent caries (secondary )→ appear at allocation with previous history of caries

D- Incipient caries (primary)→ location not experience previous decay

E- Arrested caries → lesion on a tooth which was previously demineralized but was remineralized before causing cavitation

**4-Affected hard tissue:**

a) Enamel caries: is the early and usual site of initial lesion

b) Dentine caries: deeper layer caries involve dentin

c) Cementum caries: cementum is the hard tissue that covers the roots of teeth affected when the roots of teeth are exposed to the mouths

\*Dental caries in radiographs appear as radiolucent area.

 

**Cariogenic bacteria:**

Bacteria that cause dental caries

Diet

Tooth → bacteria ferment diet →

Bacteria

production of acid **from bacteria to ferment C**HO→

→↓ PH → **dissolution of Tooth components → dental caries**



