

Lec 3

Dental caries

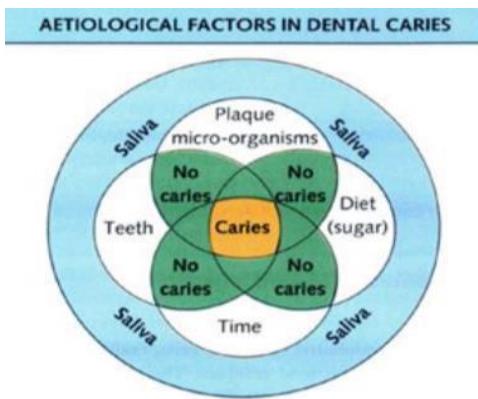
Definition: is a bacterial disease of the calcified tissues of the teeth characterized by demineralization of the inorganic and destruction of the organic substances of the tooth.

***(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)
3. Susceptible teeth (host factors)

} By time



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 caries

1-mirror

2-explorer(probe)

3-light

4-x-ray

Classification: caries can be classified by

1-location:

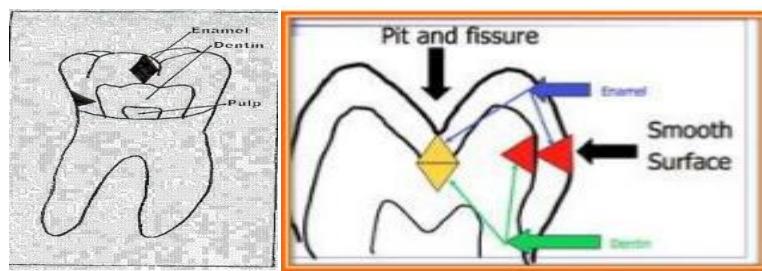
A_ pit and fissure caries

B_ smooth surface caries

A- Pit and fissure caries: are mostly located on the occlusal of the posterior teeth and palatal surface of 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 pattern } this base pattern is typical to pit and fissure caries.*(CL I)

B-smooth surface caries: CLII,CLIII {base to apex pattern}

three types



1. **Proximal caries:** or inter proximal caries form on the smooth surface between adjacent teeth,{Base to apex pattern } CL II
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 incisal 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)

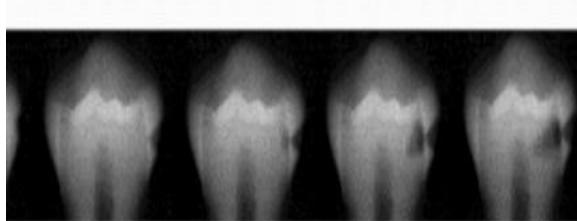
3_Rate of progression:

- 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 \rightarrow Diet \rightarrow Tooth \rightarrow bacteria ferment diet \rightarrow Bacteria \rightarrow production of acid **from bacteria to ferment CHO** \rightarrow \downarrow PH \rightarrow dissolution of Tooth components \rightarrow dental caries

