Dental Caries

By

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Dental Caries

- Dental caries: a disease of the dental calcified structures:
  - Enamel
  - Dentine
  - Cementum
Dental Caries

- It is characterized by demineralization of the mineral component and dissolution of the organic matrix.

- It is a Preventable diseases.
Development of Dental Caries

- Requirements for the development of a carious lesion are:
  - Susceptible tooth surface
  - Microorganisms
  - Cariogenic foodstuff sources
Bacteria / Plaque + Sugars in Diet

Passed of Time = Decay

Controlled by brushing, flossing and visiting the dentist.
Controlled by limiting sugars and consuming a balanced, mineral rich diet.
Step-by-Step of Dental Caries Development

1. Cariogenic foodstuff ....... fermentable carbohydrate taken into plaque
2. Plaque bacteria ........... rapid action pH of plaque drops
3. Acid formation ........ forms immediately .... frequent exposures of tooth surface to acid
4. Demineralization ........ caries process initiated ........ white spot – incipient lesion
5. Dental caries
Contributing Factors of Dental Caries

- **Time**: acid formation starts immediately when the cariogenic substance is taken into the plaque.

- **The pH of the plaque**: is lowered promptly, and 1 – 2 hours are required for pH to return to a normal level.

- **Frequency of carbohydrate intake**.
<table>
<thead>
<tr>
<th>Item</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cola</td>
<td>2.6</td>
</tr>
<tr>
<td>Oranges</td>
<td>3.7</td>
</tr>
<tr>
<td>Honey</td>
<td>3.9</td>
</tr>
<tr>
<td>Pears</td>
<td>4.1</td>
</tr>
<tr>
<td>* Strawberry yoghurt</td>
<td>4.1</td>
</tr>
<tr>
<td>Bananas</td>
<td>5.1</td>
</tr>
<tr>
<td>Carrot sticks</td>
<td>5.5</td>
</tr>
<tr>
<td>* Cheese</td>
<td>6.1</td>
</tr>
<tr>
<td>Eggs</td>
<td>6.6</td>
</tr>
<tr>
<td>* Milk</td>
<td>7.0</td>
</tr>
<tr>
<td>Water</td>
<td>7.2</td>
</tr>
</tbody>
</table>

* Food with a high calcium content helps counter the effects of acid erosion.
Types of Dental Caries (Described By Location)

- **Pit and Fissure**: occurs where three or more lobes of the developing tooth join. E.g. occlusal pits or molars and premolars. And occurs at the endings of grooves the teeth. E.g. the buccal groove of a mandibular molar.
Types of Dental Caries (Described By Location)

- **Smooth Surface**: where is no pit, groove, or other fault, and where bacterial plaque collects, such as proximal tooth surfaces, cervical thirds of teeth, other difficult-to-clean areas.
Classification of Cavitations

Greene Vardiman Black (1836–1915): known as G.V. Black
Classification of Cavitations

- *Class I: cavities in pits or fissures*
Classification of Cavitations

- **Class II**: cavities in proximal surfaces of premolars and molars
Classification of Cavitations

• **Class III**: cavities in proximal surfaces of incisors or canines (do not involve the incisal angle)

• **Class IV**: cavities in proximal surface of incisors or canines (involve the incisal angle)
Classification of Cavitations

- **Class V**: cavities in the cervical 1/3 of facial or lingual surfaces (not pit or fissure)
Classification of Cavitations

- Class VI: cavities on incisal edge of anterior teeth and cusp tips of posterior teeth
Identify the Classes of Dental Caries!!
Prevention Methods

- Balanced food intake
- Personal oral hygiene care
- Professional oral hygiene care