DENTAL EROSIONS – ACTUAL PROBLEMS OF DENTAL MEDICINE

1C. BOITOR, 2ANCA FRAŢILĂ, 3MONA IONAŞ, 4OVIDIU BOITOR
1 „Lucian Blaga” University of Sibiu, 2 Student „Lucian Blaga” University of Sibiu

Abstract: Etiological, dental erosion depend mostly on intrinsic factors (who induce the gastro-duodenal ebb and vomiting) and on extrinsic factors (frequent consumption of fruits, juice and low pH beverages). Acid pH food capacity of producing erosions was proved in vitro by softening the surface microhardness (SMH). The occluso-articular dysfunctional factors and the dental brushing are capable of bringing about particular manifestations of dental erosions. The unstimulated salivary flow, the buffer capacity of saliva and also the formation of salivary film play an important role in erosion prevention associated with dental hyper sensibility. The early diagnosis and the prevention strategy are able to limit the appearance and evolution of the erosive lesions.

Keywords: dental erosion, acid pH food, preventive measures

Rezumat: Eroziunile dentare sunt în cea mai mare măsură dependente de factorii etiologici intrinseci (care determină reflux gastro – duodenal sau vomismente) și de factorii etiologici extrinseci (consumul frecvent al sucurilor de fructe și a băuturilor cu pH – ul scăzut). Capacitatea alimentelor cu pH acid de a produce eroziuni, a fost dovedită in vitro prin scăderea durităţii superficiale a smalţului. Pe lângă acestea, atât factorii disfuncţionali ocluzo-articulare, cât și periajul dentar efectuat incorect ca tehnică dar și ca timp, pot determina manifestări particulare ale eroziunilor dentare. Fluxul salivar nestimulat, capacitatea de tamponare a salivei, cât și formarea peliculei salivare dobândite de natură muco-proteică au un rol important în prevenirea eroziunilor și a hipersensibilității dentinare. Diagnosticul precoce și strategia preventivă este o cale de a limita apariția și evoluția leziunilor erozive.

Cuvinte cheie: eroziunea dentară, alimento acid, măsuri preventive

In literature, the loss of tooth substance is described under the form of two clinical entities: dental abrasion or abfraction.

Dental abrasion is the term associated with dental wear, caused by excessive friction moves.

Abfraction is a term that is based on a still controversial hypothesis, according to which there is a dental tissue cleavage at the level of the dental neck.

The erosion pathological effects are manifested by dental hypersensitivity of the dental neck, aesthetic problems and loss of the vertical dimension.

Extrinsic causes of dental erosions are the following:
• diet
• professional environment
• contributions of certain drugs

In diet, the erosion potential is assigned to the beverages containing citric acid, acetic acid, carbonic or phosphoric acid, but also to long vegetarian diets. Beside the beverage pH, we must also take into consideration the buffer ability of saliva in order to neutralize acidity (Table no. 1).

Table no. 1. The pH and quantity of basic substance necessary for neutralization. (4)

<table>
<thead>
<tr>
<th>Substance</th>
<th>Commercial product</th>
<th>pH</th>
<th>m mol/l pH for a pH 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mineral water</td>
<td>Perrier</td>
<td>5.3</td>
<td>29</td>
</tr>
<tr>
<td>Soda</td>
<td>Coca Cola</td>
<td>2.45</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Coca Cola Light</td>
<td>2.70</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Orangina</td>
<td>3.40</td>
<td>75</td>
</tr>
<tr>
<td>Beer</td>
<td>Heineken</td>
<td>4.37</td>
<td>44</td>
</tr>
<tr>
<td>Juice</td>
<td>Fresh apple juice</td>
<td>3.36</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>Fresh orange juice</td>
<td>3.82</td>
<td>92</td>
</tr>
<tr>
<td>Milk</td>
<td>Low fat milk</td>
<td>6.65</td>
<td>5</td>
</tr>
</tbody>
</table>

Professional environment – for example, swimmers, whose teeth are in frequent and long term contact with water containing sodium hypochlorite, which causes dental erosions, sometimes even changing the

INTRODUCTION

Dental diseases, as a result of decays are decreasing in the recent decades, while dental erosions prove an increase of their prevalence with 5-92%.(1, 2)

Dental erosions are mainly due to the modern diet of the industrialized countries, based on an increased consumption of fruit juices and soda drinks, combined with an occluso-articular imbalance or with inappropriate hygiene methods.
CLINICAL ASPECTS

The most important changes in enamel surface hardness are found in the following beverages: apple juice, Coca Cola and orange juice, according to table 2.

Saliva, in opposition to the acid food, preserves an area of supersaturation of Ca and P0 ions through its well-known mechanisms of dilution and clearance, using this area during remineralization. The acquired salivary film has a particular role in achieving this last salivary function.

The salivary film is destroyed by: abrasive products, professional brushing with strong abrasive tooth paste and tooth whitening. The necessary time to restore the salivary film is between 3 minutes and 7 days.(5)

Dental erosion is an insidious process. The patient notices this only in an advanced stage. Knowing the causes that lead to this dental affection is the best way to prevent it. The most appropriate recommendations for the patient are:

- Specialized medical consultation in case of disorders caused by the gastro-duodenal flux, bulimia, or anorexia.
- Reducing the frequency of fruit juice and beverage exposure.
- Limiting the habit of keeping the beverage in the mouth and encourage the use of the straw.
- Avoiding dental brushing before or immediately after the exposure to low pH liquids.
- Encouraging the use of remineralising and neutralizing solutions based on flour, sodium bicarbonate, mineral water, milk, cheese, sugar free yogurt.
- Correct brushing technique with soft brush and without pressure.
- Stimulating the salivary flow by using sugar free gums.
- The use of fruit juice with added neutralizing substances such as sodium or carbonate phosphate. The use of lakes with high fluoride concentration may stop the dental erosions.

REFERENCES