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Original Articles

## Caries Risk Profiles in Orthodontic Patients at Follow-Up Using Cariogram

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### Abstract

**Objective:** To analyze caries-related factors shortly after orthodontic treatment and to use the Cariogram computer program to describe caries risk profiles at follow-up in these patients.

**Materials and Methods:** One hundred orthodontic patients age 12–29 years, with a mean age of 17.5 years, were included in the study. They were divided into two groups (50 in each) based on their prebonding decayed, filled surfaces index (DFS). High ( $5 \geq \text{DFS}$ ) and low ( $2 \leq \text{DFS}$ ) groups were created. All patients were examined after debonding in the following order: interview, plaque score, caries examination, saliva samples, bitewing radiographs, panoramic radiographs, and intra-oral digital photos. All types of carious lesions in both the enamel and dentine were diagnosed clinically and radiographically and included in the DFS index. A paraffin-stimulated whole saliva sample was collected for estimations of secretion rate, buffer capacity, and number of mutans streptococci and lactobacilli.

**Results:** The low caries group ( $2 \leq \text{DFS}$ ) displayed a statistically significant difference and low values for the following factors, DFS ( $P < .001$ ), lactobacilli ( $P < .001$ ), mutans streptococci ( $P < .001$ ), and high Cariogram percent ( $P < .001$ ). The plaque index displayed very close significance ( $P = .051$ ).

**Conclusions:** Patients with high ( $5 \geq \text{DFS}$ ) numbers before orthodontic treatment ran a higher risk of developing caries. They had significantly higher numbers of mutans streptococci and lactobacilli and had less chance of avoiding new cavities according to the Cariogram.

**Keywords:** [Caries lesions](#), [Saudi Arabia](#)

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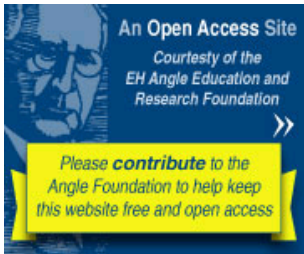
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