

Durability of different types of Mouthwashes on the Salivary Buffering system in Orthodontic Patients

Abstract

The fast elevation of the salivary pH in orthodontic patients has a critical role to save the teeth and encourage the orthodontic treatment after acidic challenge. As their baseline salivary pH is dropped during fixed orthodontic treatments.

Aims: This study was aimed to evaluate the durability of three types of mouthwashes on the salivary buffering capacity in orthodontic patients at 0, 5, 10, 15 mins after acidic challenge using direct pH meter.

Material and Method: 80 orthodontic patients; age range (13-21 years) were distributed into four groups; 20/each, the salivary pH were recorded using compact pH meter (LAQUAtwin, HORIBA's, Kyoto, Japan) before and after administration of carbonated beverage (100 ml Coca-Cola) and directly after gargling with 5 ml of the tested mouthwashes (herbal, green tea and chlorhexidine mouthwash) beside tap water as placebo control. The pH was documented again at 0, 5, 10 and 15 mins after each mouthwash gargling. One way ANOVA analysis and Duncan multiple were used for salivary pH analysis, $p \leq 0.05$.

Results: non-significant differences were found at 0, 5, 10, 15 mins in comparison with baseline pH after herbal mouthwash gargling, the same result was shown with chlorhexidine mouth wash but with less defined border. Salivary pH after green tea gargling showed clear oscillatory results after the same tested periods.

Conclusion: Herbal mouthwash is the best type to improve salivary pH for longer duration after acidic challenge. While Chlorhexidine mouthwash shows beneficial effects in elevation salivary pH with less duration. Green tea mouthwash fails to control salivary pH for long duration.