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**THE EFFECT OF CARBONATED DRINKS ON ETCHED ENAMEL- A SEM STUDY**

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**ABSTRACT**

**BACKGROUND**: The purpose of this study was to evaluate the effect of carbonated soft drinks, on the etched enamel of extracted teeth in a simulated oral environment. The teeth were then compared for amount of enamel erosion with another set of teeth that were immersed in cow milk and distilled water. The resultant values were then compared to see which solution (carbonated drink, cow milk or distilled water) caused more amount of enamel erosion.

**METHODS**: Soft drinks were tested on 150 extracted human teeth. The teeth were divided into three groups with 50 teeth in each group. Teeth under control group A were not etched. Teeth in the first and second experimental groups were etched with 37% phosphoric acid. Teeth in the control group were immersed into distilled water. Teeth in the first experimental group were immersed into cow milk and the second experimental group under mixture of artificial saliva and carbonated drink. The teeth were soaked into the test solution for 72 hours. The labeled teeth were sent under three separate groups for testing under scanning electron microscope (SEM).

**RESULTS**: Teeth immersed into the carbonated drink underwent the most amount of erosion followed by Teeth immersed into cow milk, while the teeth immersed into distilled water showed negligible amount of enamel erosion.

**CONCLUSION**: The study concluded that enamel erosion was directly proportional to a fall in the ph of the test solution. Carbonated drink solution was the most acidic as compared to milk and distilled water.

**Keywords:** carbonated drinks, enamel erosion, etched enamel, orthodontics, teeth.