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Effect of calcium lactate in erosion and *S. mutans* in rats when added to Coca-Cola.

Beiraghi S, Atkins S, Rosen S, Wilson S, Odom J, Beck M.

Thirty-six Sprague Dawley rats, 22 days of age, were divided randomly into three groups of 12 each and housed in a programmable feeder. **The three experimental groups received either Coca-Cola (CC), Coca-Cola with calcium lactate (CC-CaL), or distilled water.** The programmable feeder was set to deliver 17 equal volumes of fluid per day with each feeding period lasting between 80-90 min. All groups were given Diet MIT 305 in one premeasured amount per 24 hr period (ad libitum). The pH of the CC with calcium lactate was adjusted to match the CC without calcium lactate by the addition of citric and phosphoric acids. The test period lasted five weeks. Each week, the food and fluid consumed and the weight gain were measured. Erosion of the teeth was scored by the method of Restarski et al. (1945). ANOVA indicated that there was a significant difference in the amount of erosion among groups. **A Newman-Keuls analysis showed that the mean erosion score of the CC group was significantly greater (P less than 0.05) than that of the CC-CaL and distilled water groups (54.2 +/- 0.12; 0.0275 +/- 0.0123; 0.132 +/- 0.070, respectively).** There was no significant difference in erosion between the CC-CaL and distilled water groups. There was no difference in the amount of food and fluid consumed among the group of rats. **In conclusion, calcium lactate added to CC resulted in significantly reduced tooth erosion in rats.**

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