

The purpose of this study was to evaluate a fluoride-containing aloe vera toothpaste on dental caries using a rodent model system. Timed-pregnant dams of Holtzer rats were obtained and used to select pups who were weaned at 18 days. All rats were inoculated with Streptococcus mutans and treated daily as follows: Treatment I = control (H_2O), Treatment II = aloe vera paste (Shane^R), Treatment III = aloe vera paste with fluoride (Shane^R) and Treatment IV = conventional clinically tested fluoride paste (Crest^R). Rats were sacrificed at 14 days and the mandibles were defleshed and scored for caries with murexide as a stain. Statistical analyses were carried out with Duncan's Multiple range test for smooth surface and fissure caries. Mean fissure caries scores per half mandible scored from the lingual were Treatment I = 0.92, Treatment II = 0.83, Treatment III = 0.44, Treatment IV = 0.35. Treatments I and II were grouped together and were statistically significantly different ($\alpha = 0.05$) from Groups III and IV which were also grouped together. Fissure scores from the buccal were I = 1.50, II = 1.32 in one group and III = 0.63 and IV = 0.66 in the second group. This study indicates that the aloe vera toothpaste with fluoride (III) and conventional NaF toothpaste (IV) significantly reduced caries in this rat model.

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