In vitro inhibition of marginal caries-like lesions with fluoride-containing amalgam.

Valenzuela,

Abarca,

Silva,

Franco,

Huerta,

Carious lesions surrounding restorations represent one of the main causes of restoration failure. The addition of fluoride compounds to dental restorative materials prevents or reduces recurrent caries. The purpose of this study was to compare the capacity of three restorative materials to inhibit the development of recurrent caries in vitro. Thirty unrestored, noncarious premolars that were being extracted for orthodontic reasons were sectioned in half buccolingually and divided into three groups. One of the groups was restored with conventional amalgam. The second group was restored with a fluoride-containing amalgam, and the third group was restored with a glass-ionomer cement. All the samples were submitted to a medium containing Streptococcus mutans (Ingbritt strain) for 8 weeks. At the end of the 8-week incubation period, the samples were cut into 100 microns sections, soaked in Quinoline (IR = 1.62), and observed with light transmission and polarized light microscopy. The develo