

Fluoride acquisition on and in fluorotic human enamel after topical application in vitro

Abstract:

The uptake of alkali soluble and alkali insoluble fluoride on and in fluorotic enamel was investigated in vitro. Teeth from Kenya, assigned score 3 in accordance with Thylstrup-Fejerskov's fluorosis index, were used. The enamel was treated with either a neutral 2% NaF solution, a 0.2% NaF solution (pH 5.5), or the supernatant from a 0.1% NaF-containing toothpaste (pH 7). The treatment time was 1 h. The reaction product formed on the enamel was analyzed by KOH extraction and acid etching. Significantly higher amounts of alkali soluble fluoride were formed on the enamel from the 2% and 0.2% NaF solutions, as compared with the control. There was also a significant increase in the firmly bound fluoride after treatment with the neutral 2% NaF solution