

ABSTRACT

Backgorund: *Several studies showed that fluoride interferes in the dynamics involved in the developmet of caries and could present an antimicrobial effect or provide demineralization inhibition or dental remineralization. The development of fluoride releasing materials can contribute to a preventive effect of demineralization. GIC and Compomer are restorative materials containing fluor which can prevent demineralization.* **Purpose:** *to analyze the fluor effectiveness of Compomer than GIC against prevention of enamel demineralization.* **Method:** *the cavities were made in 18 bovine teeth which included 3 groups whose contents 6 teeth each group. After the restorative procedures, the teeth were submitted to demineralization and remineralization cycling during 14 days. The sections of the teeth were examined under scanning electron microscope after undergoing pH cycling. The data were analyzed using the Kruskall Walis and Tukey Test ($p < 0.05$).* **Result:** *GIC group showed the lowest lesion depth of demineralization followed Compomer group and Control group.* **Conclusion:** *GIC restorative material has the prevention of enamel demineralization greater than Compomer. And GIC has a better fluor release than Compomer.*

Keyword: *GIC, Compomer, fluoride, demineralization, remineralization*

