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## **Enamel fluoride levels after orthodontic band cementation with glass ionomer cement**

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### **ABSTRACT**

The aim of this investigation was to examine the fluoride uptake by enamel after application of glass ionomer cement for orthodontic band cementation compared with zinc phosphate cement. The study was conducted on 21 children whose mean age was 14 years. All the children were reared in the Middle Anatolian cities where the water fluoride concentration was below the level of 0.50 ppm. The subjects were randomly divided into three groups. The first experimental group, had seven subjects whose teeth were topically fluoridated with 2 per cent NaF solution, before orthodontic band cementation with zinc phosphate cement. The second experimental group also had seven subjects whose orthodontic bands were cemented with glass ionomer cement. The third group, consisted of seven control subjects and no dental procedures were performed in this group. All the participants were followed for 3 months and at the end of this period maxillary first premolars, which were in the ninth developmental stage according to Nolla (1960), were extracted for orthodontic purposes. The enamel fluoride concentrations were determined on the left maxillary first premolars at three successive etch depths by means of a fluor ion electrode, whereas the calcium concentrations were determined with an atomic absorption spectrophotometer. The results of this investigation showed that in both cementation groups enamel fluoride concentrations at three successive etch depths were highly increased compared with the control group. However, the difference between the cementation groups was not statistically significant.

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