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Trace elements levels of saliva in subjects with composite filling

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Objective: Trace elements are known as agents that regulate various biological pathways. Copper and zinc are essential components of antioxidant enzyme system. The aim of this study was to determine the Fe, Cu, Zn levels of saliva after application of composite resin restoration.

Materials & Methods: Twenty cases of class I caries cavity (M:F ratio 8:12; age 18-25 yrs.) were selected for the present study. After the cavity preparation, the restorative material (Filtek Z 250) was applied according to the manufacturer's instructions to the cavities. Unstimulated whole saliva samples were collected from individuals before the restoration and 1 hour, 1 day, 7 days, and 30 days following the restoration. Trace elements content of saliva (zinc, copper, and iron) were analyzed with atomic absorption spectrophotometer (AAS) (AAAnalyst 800, Perkin Elmer, USA) by electrothermal graphite oven technique. Repeated measures analysis of variance test was used in the assessment of trace element level over time ($\alpha=0.05$).

Results: Copper, zinc, and iron level of saliva decreased from Cu: 189.44 ± 30.91 to $122.77\pm$, Zn: 67.24 ± 2.6 to 60.26 ± 13.38 , Fe: 162.48 ± 11.01 to 126.26 ± 7.2 at the end of 30 days. However, these changes did not show any significant difference ($p>0.05$).

Conclusion: Our findings showed that composite resin application did not affect trace elements level of saliva.

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