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TITLE

Evaluation of adding fluorapatite nanoparticles on compressive strength of dental amalgams

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the aim of this study was to evaluate of adding fluorapatite nanoparticles on compressive strength of dental amalgams. An amalgam alloy powder (World-Cap®) was added and mixed with 1 wt%, 2 wt% and 4 wt% of fluorapatite nanoparticles, respectively. The original alloy powder was used as a control. Alloy powders were examined using X-ray diffraction (XRD), scanning electron microscopy (SEM) and energy dispersive X-ray analysis (EDXA). The results of compressive strength tests showed that for the amalgam with 1 wt% and 2 wt% fluorapatite nanoparticles, the compressive strength is comparable with control sample and fluorapatite particles did not affect the compressive strength of amalgam alloy. For the amalgam with 4 wt% nanoparticles, the compressive strength was lower than the control sample's. The results indicated that the fluorapatite nanoparticles can be added to amalgam alloy in less than 2 wt% and induce more biocompatibility and bioactivity to amalgam restorations.

Biography

Ali Doostmohammadi has completed his Ph.D in Biomaterials from Isfahan University of Technology (IUT), Iran. He is an assistant professor at Shahrekord University. He has published more than 10 papers in reputed journals.