

عنوان مقاله:

Enhancing Glass Inomer Cement Properties by HA-YSZ Nanocomposite : a Mixture Design Experiment

محل انتشار:

اولین کنفرانس بین المللی مواد پیشرفته (سال: 1391)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Beside of Glass Inomer Cements ,s (GIC) brilliant properties, the weak mechanical properties of GIC is as big barrier for using it in the orthopedic surgery. The present research aims to formulate hydroxyapatite/ yetria stabilized zirconia (HA/YSZ) -GIC composite cements with improved mechanical properties of the set cement than the pure GICs. The HA/YSZ was synthesized via sol-gel method and characterized by X-ray diffraction (XRD), fourier transform infrared spectroscopy (FT-IR) , X-ray photo-emission spectroscopy (XPS), the simultaneous thermal analysis (STA) and transmission electron microscopy (TEM) methods. The synthesized nanocomposite was mixed with GIC in the fixed composition of 5 %W/W. The mechanical effect of different weight percent of YSZ: HA on GIC was investigated by measuring the compressive strength, diametral tensile strength, hardness

کلمات کلیدی:

Glass inomer cement, HA/YSZ, mechanical properties

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/151083>

