

عنوان مقاله:

CORROSION BEHAVIOR OF BIOACTIVATED TITANIUM DENTAL IMPLANT USING DIFFERENT CHEMICAL METHODS

محل انتشار:

فصلنامه مواد پیشرفته و فرآوری، دوره 6، شماره 1 (سال: 1397)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

At the past, damaged tissue was removed from the body of patients. But now tissue regeneration using scaffolds and implants are used to repair the damaged tissue and organs. Besides of the mechanical properties of metallic biomaterials, they suffer from bioinertness. Using some surface treatment techniques, the bioactivity and also corrosion resistance of titanium implants could be improved. In this study the effect of H_2O_2 and alkali treatments on the corrosion behavior of titanium implant in the artificial saliva, surface morphology and phases formed on the surface, were investigated using electrochemical corrosion test, scanning electron microscopy (SEM) and thin film x-ray diffractometry (TF-XRD) respectively. Results indicated that on the surface of H_2O_2 and alkali treated titanium samples, fine particles of anatase and fine wire of rutile was formed respectively. The results indicated that the corrosion resistance of alkali treated titanium in the artificial saliva was higher than H_2O_2 treated titanium sample. The corrosion current density for untreated, H_2O_2 and alkali treated titanium samples were about 0.6×10^{-8} , 5×10^{-8} , 3×10^{-8} A/cm² respectively.

کلمات کلیدی:

Titanium implant, Corrosion behavior, Surface Treatment, polarization

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1282650>



