

Hydroxyapatite Coating on Silicon Nitride Surfaces using the Biomimetic Method

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Silicon nitride based ceramics are promising candidates for biomedical applications due to their chemical and dimensional stability associated to suitable mechanical strength and relatively high fracture toughness. However, the bioinert characteristics of these ceramics limit their application in situations where the formation of chemical bonds between the material and the tissue are not essential. One way to increase the application field of these ceramics in medicine is promoting their bioactivity by means of a hydroxyapatite coating. Therefore, in this paper, samples of silicon nitride were coated with apatite using the biomimetic method. The treated silicon nitride surface was characterized by diffuse reflectance infrared Fourier transformed, X-ray diffraction and scanning electron microscopy. The results showed that a layer of hydroxyapatite could be deposited by this method on silicon nitride samples surface.

Palavras-Chave:

bioceramic, silicon nitride, biomimetic method, hydroxyapatite