

Enhancement and Characterization of Titanium Surfaces with Sandblasting and Acid Etching for Dental Implants

Authors : Busra Balli, Tuncay Dikici, Mustafa Toparli

Abstract : Titanium and its alloys have been used extensively over the past 25 years as biomedical materials in orthopedic and dental applications because of their good mechanical properties, corrosion resistance, and biocompatibility. It is known that the surface properties of titanium implants can enhance the cellular response and play an important role in Osseo integration. The rate and quality of Osseo integration in titanium implants are related to their surface properties. The purpose of this investigation was to evaluate the effect of sandblasting and acid etching on surface morphology, roughness, the wettability of titanium. The surface properties will be characterized by scanning electron microscopy and contact angle and roughness measurements. The results show that surface morphology, roughness, and wettability were changed and enhanced by these treatments.

Keywords : dental implant, etching, surface modifications, surface morphology, surface roughness

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