Short Communication

Corrosion Behaviour of Ti–6Al–4V Alloy as Dental Implant Containing Fluoride Ions

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This work investigated the corrosion performance of Ti–15Mo alloy in NaCl (0.15 M) + NaF (different concentrations) and compared the protective capacity of this alloy and two other alloys (Ti–6Al–4V and CP-Ti) to ascertain their suitability for application in dental implanting. The Ti–6Al–4V, Ti–15Mo and CP-Ti alloys exhibited steady-state current densities of 6, 2 and 1μA/cm², respectively, when investigated in NaCl (0.15 M) + NaF (0.03 M) at 200 mV (versus SCE). This result suggested desirable corrosion resistance of the three alloy samples in the potential range that could exist in the oral environment.

Keywords: Corrosion; Dental implant; Fluoride ions; Electrochemical study; Ti–6Al–4V alloy

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