ELECTROCHEMICAL DEPOSITION OF HYDROXYAPATITE (HA) ON TITANIUM ALLOYS FOR THE IMPLANT SURFACE BIO-FUNCTIONALIZATION

BY

IONUȚ ŞTIRBU*, PETRICĂ VIZUREANU, MIHAELA RAȚOI and NICANOR CIMPOEŞU

"Gheorghe Asachi" Technical University of Iasi,
Department of Teaching Training – Physical Education and Sports

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Abstract. Titanium alloys are widely used in implantology. Electro-chemical deposition of hydroxyapatite (HA) on $Ti_6A_{l4}V$ was achieved through a two-step process, via monetite. The first step involves the electrochemical deposition of Monetite ($CaHPO_4$) and in the second step it is chemically transformed into hydroxyapatite (Ca_{10} $(PO_4)_6(OH)_2$). The atomic proportion Ca:P is characterizing a monitite structure from the surface of the substrate. Monetite transformation into hydroxyapatite is achieved by immersing the electrochemically coated sample in NaOH 0.1 N for 90 h at room temperature.

Key words: implant surface bio-functionalization.

*Corresponding author: *e-mail*: ionut stirbu@yahoo.com