

Investigation of biocompatibility on plasma polymerized Mg surface

명성운, 김병훈*

조선대학교 치과대학 치의학전문대학원

(kim5055@chosun.ac.kr*)

Magnesium(Mg) is light, biocompatibility and has mechanical properties to natural bone. However, pure Mg severely corrodes in a physiological environment, which may result in fracture prior to substantial tissue healing. Mg Surface was modified by depositing a thin polymeric thin film containing COOH, NH₂ and OH groups through plasma polymerization of acrylic acid, ally amine and allyl alcohol. -COOH function was favorable for bone-like apatite formation when compared with -NH₂ and -OH. It was also concluded that a bone-like apatite formed COOH/Mg surface was more effective slowed down the degradable rate of the surface than another group. The results of cell proliferation revealed significantly enhanced cell proliferation and differentiation on the COOH/Mg and NH₂/Mg surfaces than another surfaces.