***A review on enhancement of mechanical properties of titanium alloys through nanoparticles***

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Biomedical applications are carried out with certain important materials which comprise metals and their allied alloys, ceramics and polymers. Among those materials, titanium and it's alloys were found to be highly popular due to their excellent mechanical properties and high corrosion resistance. These exponential properties makes it a suitable element for biomedical applications which includes dental and orthopedic implants. Osseointegration of implants with human bone can be made more effective with efficient with development of hydroxyapatite (HAp) on a Titanium surface with the help of various deposition techniques. In this study, a competent and capable approach is proposed which is based on an antibacterial stabilized Ag nanostructure which will be fabricated on the surface of Ti, established on a two-step process involving target-ion induced plasma sputtering (TIPS) and Ag sputtering. In this method, a nanostructured Ti surface is generated which produces a nano template on which the Ag nanostructure may be accumulated through Ag sputtering. After 7 days, it was observed that the coating was substantially grown after the exposure of the alloy with simulated body fluid (SBF) solution with no effect on the Ag nanoparticles.