20. Effect of photofunctionalized gold nanoparticles on implant osseointegration."

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Nanotechnology has become most interesting and advance area of research nowadays. Nanotechnology of dental implants has influenced cell-implant interactions at the cellular and protein level. Gold nanoparticles (gnps) are widely used in diagnostics, targeted gene and drug delivery, biomedical imaging, and photo-thermal therapy due to their large reactive and exposed surface area, high dispersity, enhanced permeability and retention, non toxic and biocompatible nature. Photofunctionalization (phf), a concept in which ultraviolet light is used to alter the physiochemical properties of titanium surfaces and increase the bone-implant contact (bic) to almost 100%. Moreover, with this new technology when applied with other surface modification techniques such as nanotechnology and stem cell tissue engineering will provide high potential in enhancing implant osseointegration. Gnps display a positive effect on the osteogenic differentiation of mesenchymal stem cells (mscs) and osteoblast-like cells. This paper review the influence of photofunctionalized gold nanoparticles on the osseointegration of implants.

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