

MULTIFUNCTIONAL BIOCERAMICS: HOW TO SEEK A DRAW IN THE RACE FOR THE SURFACE

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Implant-related infections are one of the most common reasons for surgical failure (14-29% of total failures), in most cases causing severe disability and leading to a significant reduction in the patient's quality of life. According to the most recent surveys, the mortality rate of patients undergoing primary implant infections ranges from 10 to 18%; moreover, if an infection occurs also in the revised implants, this percentage can double or triple. In the most of the cases infections are due to antibiotic resistant biofilm that makes treatment very difficult. Therefore, technologies addressed to prevent biofilm formation onto implants surface, without affecting biocompatible properties, seems to be a promising approach.

In the present lecture non functionalized and functionalized bioceramics with trace elements, polyphenols, magnetic nanoparticles, Ag-doped proteins with bacteriostatic properties and active in bone, cartilage and mucosa regeneration will be presented.