

TITLE: NEW SOL-GEL COATING FOR PREVENTING INFECTIONS RELATED TO IMPLANTS AND OTHER POLYMERIC-BASED DEVICES

FIELD OF INTEREST

Biomaterials (Surgery, Prothesis, Implant, Polymeric-based devices, Infections)

CLINICAL NEED

The contamination of the implant in surgery cannot be controlled in the organism if bacterial adhesion occurs followed by biofilm formation and subsequent infection. After surgery, the tissue that surrounds the replacement remains avascular and/or necrotic, and the concentration of the antibiotics administered orally or parenterally that reaches the tissue-metal implant interface is lower than that detected in blood. The treatment of the infection is often ineffective if the infected prosthesis is not removed.

Apart from contamination related to implants, devices manufactured with a polymeric base sometimes causes local or systemic infections, such as complicated or uncomplicated bacteremia. These types of complications cause significant morbidity and considerable mortality, this being the most frequent cause that requires the removal of any type of device.

DESCRIPTION OF THE INVENTION

The invention further relates to a method for obtaining a coating from sol-gel technology and the application of this coating to substrates such as implants or devices manufactured with a polymeric base, due to its biodegradable, biocompatible and adhesive properties thereof, as well as, its capacity thereof to release antimicrobials in a controlled manner at a local level.

TECHNOLOGY KEYWORDS

Sol-gel, prostheses, bactericide, biodegradable, moxifloxacin, antibiotic, titanium, powder metallurgy.

IPR STATUS

Patent application number P201730628// PCT/ES2018/070314.

Applicants: IIS-FJD, UC3M.

TYPE AND ROLE OF PARTNER

Looking for technological partners for going through clinical trials as well as commercial partners interested in licensing.

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