Electropolymerization of water-souble prodrugs for the drug binding stent

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We have developed an electrochemically initiated in-situ polymerization of a drug directly on-to the surface of the stent. For the electropolymerization water soluble paclitaxel prodrug(PP7) analogues synthesized by incorporation of several monomers containing a vinyl group onto the carbon 2'of water soluble paclitaxel prodrug(PP7). The incorporation of the monomeric units has been successfully carried out and the analogues synthesized were characterized. And we have tried the electropolymerization of polymer-modified paclitaxel prodrugs for practical application. These PP7 analogues synthesized were polymerized directly on-to the surface of a stainless-steel by an electrochemical polymerization. The electropolymerization is conducted in fact by a radical initiation. And it was checked and optimized with several monomers containing a vinyl group in order to determine the polymerization parameters. The obtainde electropolymerized-steels were characterized.