OXYTETRACYCLINE LOADED CHITOSAN-CARBOXYMETHYL CELLULOSE MICROSPHERESCROSSLINKED WITH SODIUM HEXAMETAPHOSPHATEFOR DRUG DELIVERY

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Abstract - In this work, Oxytetracycline,which is a broad-spectrum antibiotic was encapsulated into co-polymerized microspheres made from chitosan (CS), sodiumcarboxymethyl cellulose (CMC) and sodiumhexametaphosphate (SHMP) as crosslinking agent.The obtained microspheresprepared from 1:1 and 3:1 ratios of the two biopolymerswere characterized preliminarily by FTIR and electron microscopy (SEM) and the effect ofglutaraldehyde used as membrane hardening agent was also assessed.The swellingbehavior of the microspheres and the release kinetics of the antibioticin simulated gastric and intestinal mediashowed that microspheres with Cs/CMCratio of 1/1 weremore efficient. Moreover, the use of glutaraldehyde at small extent seemed to give a good resistance of the microspheres in these media.

Keywords - Chitosan, Carboxmethylcellulose, sodium hexametaphosphate, Glutaraldéhyde