

## POLYSACCHARIDE AS DRUG DELIVERY MATRIX: I- CASHEW GUM/CHITOSAN GELS

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Polysaccharides and their derivatives represent a class of polymeric groups largely used in system for controlled drug delivery, as well as in pharmaceutical formulations. The research of polysaccharide formulation for drug delivery system has increased in recent years due mainly to their excellent biocompatibility and biodegradable properties. The aim of this work was to investigate the potential of chitosan/cashew gum (CH/CG) and periodate oxidized cashew gum/chitosan gels for controlled release of drugs. Gels of chitosan/cashew gum were prepared by re-acetylation of chitosan with acetic anhydride, characterized by infrared spectroscopy and the swelling in water and in phosphate buffers investigated. The release of pilocarpine for all three gels was shown to be similar in the first 100 min, where about 60% of the pilocarpine was released. After this time, addition of CG to the gels decreases pilocarpine release rate in the medium. The release of pilocarpine in CH/CG matrix occurred by Fickian mechanism, independent of the pH value. Gels with chitosan and oxidized CG (CGOX) were obtained by Schiff-base reaction mechanism. The gels were insoluble in acidic and basic medium. Release of sodium dichlofenac by CH/CGOX gel was investigated. At pH =1.2 no drug is released in the medium and a controlled released is observed at pH = 7.4.

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