



Synthesis, Characterization and Evaluation of the Effect of Chemical Modification of Chitosan on Drug Release

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SUMMARY. A novel polymer, chemically modified chitosan was synthesized by reacting with hydrochloride salt of 2-aminoethanoyl chloride. Formation of novel chemically modified chitosan was confirmed by FTIR and NMR spectroscopy and by thermal (DSC) and elemental analysis. Acute oral toxicity study was performed on modified chitosan to check its safety. Ibuprofen, paracetamol and diclofenac sodium tablets were compressed on a single punch tablet machine using the weight granulation method. The drug release was found to be delayed from the formulations containing chemically modified chitosan. Thus, it could be concluded that the change in the hydrophilic balance and the resultant change in the modulation of swelling of the polymer may retard the drug release from polymer matrices.

KEY WORDS: Acylation, 2-aminoethanoyl chloride, Chitosan, Drug release.

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