EVALUATION OF CHITOSAN SUCCINATE AND CHITOSAN PHTHALATE AS ENTERIC COATING POLYMERS FOR DICLOFENAC SODIUM TABLETS

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This study aims at evaluating the potential of chitosan succinate and chitosan phthalate as enteric coating polymers for diclofenac sodium tablets. The solubility of the new chitosan derivatives was evaluated in different media to check their suitability for enteric applications. Diclofenac sodium core tablets were coated with either derivative and drug release was evaluated according to the USP method for delayed release (enteric) preparations. The effects of storage, elevated temperature and humidity on drug release were also evaluated. The solubility profile of chitosan succinate and chitosan phthalate was completely different from that of chitosan. The new derivatives showed significantly improved solubility in basic media while their solubility in acidic media decreased in comparison to the native polymer. Chitosan phthalate coated tablets complied with USP specifications for delayed release preparations while chitosan succinate coated tablets released a high percentage of the drug in the acid stage but failed to provide the required dissolution criteria for enteric tablets. Storage under ambient conditions as well as under elevated