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Preparation and Characterisation of Controlled Release Ciprofloxacin HCl Microspheres

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***SUMMARY*. The aim of the study was to formulate and evaluate controlled release microspheres. Ciprofloxacin HCl, belonging to the class of fluroquinolones, was chosen as the model drug. The drug-loaded microspheres were prepared with different ratios of polymers like sodium alginate and sodium carboxy methyl cellulose (CMC) by w/o emulsification solvent evaporation method. The prepared microspheres were characterized by FT-IR spectroscopy, differential scanning colorimetry for drug polymer compatibility studies and scanning electron microscopy for surface morphology. The resulting microspheres were found to be small, discrete, spherical and free flowing. They were further evaluated for their micromeritic properties, particle size analysis, drug loading and entrapment efficiency. The mean particle size was 201.21 μm. *In vitro* drug release studies revealed that formulation Fm6 containing sodium CMC as the polymer showed greater sustained effect for 10 hours. Stability studies showed no significant changes in the drug content and physical appearance.**

KEY WORDS: Ciprofloxacin HCl, Emulsion solvent evaporation, Microspheres, Sodium CMC, Sodium alginate.

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