

Preparation and assessment of piroxicam loaded solid lipid nanoparticles

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Background and Aims: to days a vast majority of attention was paid to developing solid lipid nano particles (SLN) for topical application. Many features, which these carrier systems exhibit for dermal application of cosmetics and pharmaceuticals, have been pointed out. The present study was designed to explore the preparation and evaluation of piroxicam loaded solid lipid nano particles as an alternative carrier system to emulsions, liposomes and polymeric nanoparticles.

Methods: SLN of piroxicam were produced by solvent diffusion/evaporation method. Brij 35 and brij 72 was dissolved in aqueous phase, piroxicam and stearic acid dissolved in acetone as. The organic phase was added to aqueous phase and mixed at 2000rpm tat least for two hrs to eliminate the acetone. Particles size and size distribution of SLN were assessed using Shimadzu particle size analyzer and piroxicam loading was evaluated using reverse phase HPLC method (C18 column with aqueous phosphate buffer: methanol, 60:40, v/v as mobile phase) equipped with UV detector at 254 nm.

Results: In optimized conditions, mean particle size of SLN 100 nm and the entrapment efficiency of the SLN were more than 90 %.

Conclusions: In conclusion formulation of Piroxicam as (SLN) Nano suspension would be promising delivery system for piroxicam.

Keywords: Solid lipid nanoparticles; Brij 72; Brij 35; Piroxicam