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Abstract

Development of vesicular drug delivery system for non-steroidal anti inflammatory agents

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Naproxen Sodium is a non-steroidal anti-inflammatory drug, considered to be the first line drug in the symptomatic treatment of rheumatoid arthritis and ankylosing spondylitis. Naproxen sodium belongs to BCS class-II drug. It is having several side effects such as abnormal heart rhythm, branchospasm etc., In order to avoid systemic side effects of Naproxen there is a need to adopt novel drug delivery approaches in the design of dosage form. In the present study vesicular drug delivery system is designed for Naproxen sodium. Attempts have been made to prepare and characterize Naproxen sodium loaded liposomes, ethosomes and transferosomes. Liposomes and transferosomes were prepared by thin film hydration method. Ethosomes were prepared by hot method. The obtained liposomes, ethosomes and transferosomes were characterized for surface morphology, FTIR, particle size, zeta potential, drug content, entrapment efficiency and Invitro diffusion studies. Comparative study was performed between the best formulation of liposomes, ethosomes and transferosomes. When entrapment efficiencies of the three vesicular systems were compared transferosomes were found to be better vesicular system. For topical drug delivery ethosomes are found to be better because of small mean particle diameter. For the formulation of topical gel transferosomes and ethosomes are highly preferred when compared to that of liposomes. Liposomes followed zero order kinetics, ethosomes and transferosomes followed first order kinetics with non fickian diffusion mechanism. So liposomes are best suited as oral drug delivery system as they follow zero order kinetics.

Biography:

She is an associate Professor, RBVRR women's college of Pharmacy, India

Publication of speakers:

- Different techniques used for the preparation of nanoparticles using natural polymers and their application, AK Sailaja, P Amareshwar, P Chakravarty
- Chitosan nanoparticles as a drug delivery system, AK Sailaja, P Amareshwar, P Chakravarty

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