



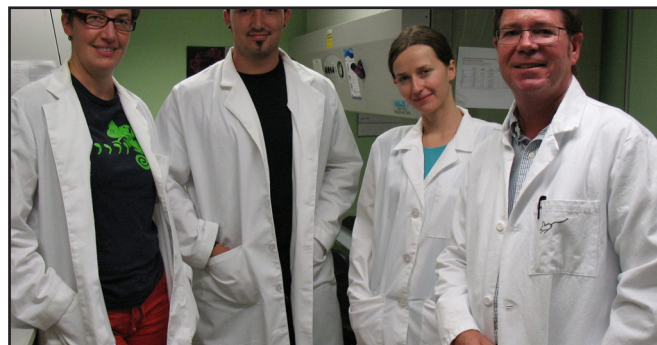
Formulation and evaluation of ibuprofen loaded niosomal gel by thin film hydration method

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Abstract:

Ibuprofen is a hydrophobic drug can be better entrapped in the cholesterol; surfactant multilamellar vesicles by lipid film hydration method and the study will help to enhance the action of the drug. Ibuprofen loaded niosomes were prepared by thin film hydration technique. In thin film hydration technique span 60, span20 and span80 were selected as non-ionic surfactants. For the preparation of ibuprofen loaded niosomes by thin film hydration technique, the process parameters such as rotation speed and hydration temperature were optimized. Nine formulations were prepared by varying the surfactants (span60, span80, span20) and surfactant: cholesterol concentration. Out of the nine formulations the F1 formulation of span60 :cholesterol 1:1 ratio was found to be the best formulation with drug content of 95.4%, entrapment efficiency of 44.2%, mean particle diameter of 804.2nm, zeta potential value of -28.1mV. In vitro drug release data showed 86.05% of drug release sustained up to 12hrs. From the in-vitro release studies, the best niosomal formulation of ibuprofen was used to prepare topical gel. F1 prepared by thin film hydration was taken as the best formulation. The prepared niosomal gel (G2) was compared with that of plain gel containing pure drug (G1) for parameters clarity, pH, homogeneity, drug content, spreadability and invitro drug 116 diffusion studies etc. Both the gel formulations were found to be clear, pH was



in range between (6.4-6.6), the formulations were homogenous and spreadability was in range (16.8- 28.4 g.cm/sec). The niosomal gel formulation (G2) showed sustain release up to 12 hours (80%) when compared to plain gel (G1)with 81.71% up to 7hours.

Biography:

Abbaraju Krishna Sailaja is working as Associative Professor and head of the Department, Pharmaceutics in RB-VRR Women's College of pharmacy, Ph.D thesis (pharmaceutics) awarded from Osmania University.

Publication of speakers:

1. Abbaraju Krishna sailaja, et al., Preparation of carbapol coated nanoparticles by emulsion polymerization technique.; J of Pharmaceutical sciences & Drug Development; 2019 Feb 15;164:121-170

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