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Development and optimization of boswellic acids loaded proniosomal gel**Munish Garg**

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Boswellic acids (BAs) are isolated from oleo gum of *Boswellia serrata* Triana & Planch. (Family: Burseraceae) and are mainly used as potential anti-inflammatory, hypolipidemic, immunomodulatory and antitumor agents. Pharmacokinetic investigations of boswellic acids uncover its poor bioavailability through digestive system thus necessitates an improved therapeutic response which can possibly be achieved by developing formulations through novel delivery system. The present study was conducted to design topical boswellic acids loaded proniosomal gel for the management of inflammatory disorders with enhanced bioavailability. Non-ionic surfactant vesicles were prepared using the coacervation phase separation method. A central composite design was employed to statistically optimize formulation variables using Design-Expert software. Three independent variables were evaluated: Amount of surfactant (X_1), amount of soyalecithin (X_2), and amount of cholesterol (X_3). The encapsulation efficiency percentage (Y_1) and particle size (Y_2) were selected as dependent variables. The optimum formulation (F10) displayed spherical bi-layered vesicles under transmission electron microscopy (TEM) with optimum particle size of 707.9 nm and high entrapment efficiency as 98.52%. *In vitro* skin permeation study demonstrated the most sustained release of 84.83 ± 0.153 mg/cm² in 24 hours. Anti-inflammatory activity of the gel showed a significant ($p < 0.001$) higher percentage inhibition as compared to the marketed gel at the same dose. The present study exhibited that boswellic acids loaded proniosomal gel was better in terms of absorption, bioavailability and release kinetics.

Biography

Munish Garg is presently working as a Professor and Head of the Department of Pharmaceutical Sciences, Maharshi Dayanand University, India. He has about 17 years of professional experience in the field of Academics, Research and Administration. Previously he has worked as an Assistant Director, All India Council for Technical Education, New Delhi where he has contributed in the quality control of technical education. His research area is Quality Control and Standardization of Herbal Plants and Formulations for Safety and Efficacy. He has about 70 research papers, 50 presentations, 150 scientific abstracts and financial grant of about Rs. 1 Crore from different Government funding agencies to his credit. He is in the panel of several Government bodies for planning and execution of pharmacy and technical education in India.

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