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Formulation and characterization of dirithromycin nanoparticles for topical treatment

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Macrolide antibiotics constitute a very important class of antibacterial compounds. They are used to treat a wide range of infections, not only in medical but also in veterinary practices. Macrolide antibiotics have chemical characteristics different from other antibiotics, such as having macrocyclic lactone, peculiar molecular size and conformation, and high lipophilicity. Dirithromycin (DRM) is a newer macrolide or new generation macrolide, showing broader antibacterial spectra and good bioavailability through acid stability. Skin and soft tissue infections (SSTIs) have become the second most common type of infections. DRM is as effective as penicillin against skin and soft-tissue infections. DRM appears to have a similar incidence of gastrointestinal side effects. Because of the known side effects, it will be safe to use DRM as topical agent. However, the transdermal penetration and systemic bioavailability of topical macrolides are not yet completely clarified. In order to enhance topical or transdermal delivery of active pharmaceutical ingredients, many drug delivery systems, such as liposomes, polymeric or lipid nanoparticles (NPs) and microparticles, have been extensively studied. In this study polymeric nanoparticles were prepared and characterized for topical use aiming to have localized treatment and controlled antimicrobial delivery.

Biography

Evrin Yenilmez has completed her PhD at the age of 28 years at Anadolu University Faculty of Pharmacy, Pharmaceutical Technology Department in Turkey. Since 2007, she is Assistant Professor in Pharmaceutical Technology Department; she is a Lecturer and Researcher. Her research is focused on Nanotechnology; Drug Delivery and Cosmetic Delivery Systems. She has attended several symposiums with oral and poster presentations. She also contributes to Pharmaceutical Journals as an active reviewer.

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