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Preparation and characterization of dexketoprofen tromethamol loaded Eudragit® RS 100 nanoparticles

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Nonsteroidal antiinflammatory drugs (NSAIDs) also called nonsteroidal anti-inflammatory agents/analgesics (NSAIDs) or nonsteroidal anti-inflammatory medicines (NSAIDs) are a class of drugs which provide analgesic (pain-killing) and antipyretic (fever-reducing) effects, and anti-inflammatory effects in higher doses. The most prominent members of this group, aspirin, ibuprofen and naproxen are all available as over-the-counter drugs in most countries. Arylpropionic acids are a group of NSAIDs currently produced in the racemic form. Dexketoprofen tromethamol is the dextrorotatory enantiomer of ketoprofen formulated as tromethamine salt. Dexketoprofen tromethamol's distribution half-life and elimination half-life are 0.35 and 1.65 hours, respectively. Eudragit polymers which are acrylic/metacrylic acid esters act as polyelectrolytes regulated by percentage of charged (quaternary ammonium) and non-ionized (ether) groups in their structures. Eudragit RS® 100 is a poly-(ethyl acrylate, methyl methacrylate, chloro trimethyl ammonium ethyl methacrylate) copolymer. It is insoluble at physiological pH values but undergoes swelling in water. Eudragit RS® 100 is commonly used for enteric coating of tablets and preparation of controlled-release drug forms and represents a prototype for dispersion of drugs. Polymeric nanoparticles prepared by spray-drying method and characterized for controlled oral delivery of dexketoprofen tromethamol was aimed in this study.

Biography

Ahmet Alper Öztürk received BA in June 2013 at Anadolu University, Faculty of Pharmacy. He started the PhD program in September 2013. He is working as a Research Assistant at the Department of Pharmaceutical Technology at Anadolu University since 2014. He has participated in the ERASMUS Internship Program at University of Cagliari, Italy in 2011.

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