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Modified release of Furosemide from compression-coated tablets

Vlachou M
University of Athens, Greece

Furosemide is a loop diuretic used to treat fluid build-up and swelling caused by congestive heart failure, liver cirrhosis, or kidney disease. As a drug substance, furosemide is characterized by poor solubility in the upper GI tract and by a rapid release in the intestinal fluids and, therefore, when administered orally its therapeutic effect is fast and intense. A formulation with slower release rates would be probably preferred for patients because of a lower initial diuretic effect. Based on these claims it was decided to extend our previous research on the modified release of this drug, by employing various compression coated systems. Compression coated tablets were comprised of Furosemide and Lactose monohydrate in the core and different types of Eudragit in the coating. The dissolution experiments involved flat tablets (10 mm diameter, 200 mg weight), the drug release from which, in gastric and intestinal simulated fluids, was determined spectrophotometrically at λmax=274 nm for pH 1.2 and λmax=276 nm for pH 6.8. The results from the in vitro release experiments suggest that the excipients used in this work constitute promising drug delivery systems for the modified release of per os administered Furosemide.

Biography

Marilena Vlachou is an Assistant Professor at the National and Kapodistrian University of Athens, Greece. She teaches two undergraduate courses and one postgraduate, all related to the field of Pharmaceutical Technology. She has co-authored the textbook entitled "Pharmaceutical Technology I: Principles of Physical Pharmacy and Nanotechnology", 2007, and has presented her research work in more than fifty International and Domestic Scientific Conferences. She has published more than thirty articles in peer-reviewed Journals and is a member of the Greek Pharmaceutical Society, the Greek Society of Pharmaceutical Technology, and the Greek Section of the Society of Controlled Release of Drugs.

vlachou@pharm.uoa.gr

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