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Design and *in vivo* evaluation of diclofenac sodium sustained release matrix tablet: Effect of compression force

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In the present study, Diclofenac Sodium (DS) matrix tablets were prepared by direct compression method under different compression forces (5, 10, 15 and 20 kN), using ethylcellulose as matrix forming material. The produced tablets were characterized on the foundation of satisfactory tablet properties such as hardness, friability, drug content, weight variations and *in vitro* drug release rate. Differential scanning calorimetry (DSC), Fourier Transform Infrared (FT-IR) spectroscopy and X-ray diffraction have been used to investigate any incompatibilities of the tablet's ingredients. Additionally, *in vivo* bioavailability has been investigated on beagle dogs. Data obtained revealed that, upon increasing compression force the *in vitro* drug release was sustained and the T_{max} value was four hours (for formulations compressed at 15 and 20 kN) compared to the conventional voltarine[®] 50 tablets (T_{max} value of 2 hours).

Biography

Ibrahim M El-Bagory Is Professor of Pharmaceutics, College of Pharmacy, Al-Jouf University. He gained a Ph.D. in Pharmaceutics and Pharmaceutical Technology from the University of British Columbia, Canada/Al-Azhar University, Cairo, Egypt. He has more than 30 internationally published research papers focused on nuclear pharmacy, evaluation of degree of crystallinity of drugs and excipients, preformulation studies for some solid dosage forms, bioavailability and pharmacokinetics of number of drugs

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