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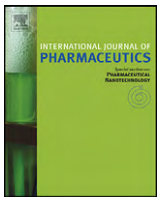

Editorial

Gastrointestinal transit and functionality of multiple unit dosage forms

The effect of dosage forms on gastrointestinal transit has long been debated in the literature and there are numerous claims (e.g., tablets versus pellets) that dosage form dependant changes in transit have an influence on drug absorption and predictability of absorption and bioavailability. However, there are a number of conflicting reports in the literature, and as it stands authors tend to claim the source that meets their expectations rather than evaluating the evidence critically. As a result, assumptions are made, which can be misleading and contribute to failure of dosage forms designed for special applications (e.g. modified release dosage forms or targeting of a specific region of the gastrointestinal tract). One major issue with many studies reporting on gastrointestinal transit is their questionable study design, which effects and biases the results towards a specifically expected outcome. It is also important to note that the issue of gastrointestinal transit has mainly be studied in healthy human adults, whereas specific recipients of dosage forms such as children have been considered only in a few cases. During formulation targeting of specific regions of the gastrointestinal tract is often attempted without the consideration of these facts.

In this special issue I have invited six scientists renowned for their work in the field of gastrointestinal transit to make their contributions to clarify some of the above-mentioned issues and to highlight areas where uncertainties remain. Prof. J.M. Newton (University College London, University of London, UK) has looked critically on the effect of dosage form on gastric emptying and has highlighted the numerous shortcomings of approaches used and results reported. Prof. K.H. Yuen (University of Science, Penang, Malaysia) has reviewed the literature on transit of dosage forms through the small intestine, while Prof. C. Wilson (University of Strathclyde, UK) has studied the transit of dosage forms through the colon i.e. the transit through the three major organs for oral drug delivery (stomach, small and large intestine) has been covered comprehensively in this special issue. How gastrointestinal transit and drug absorption are linked has been reviewed by Dr. A.W. Basit (The School of Pharmacy, University of London, UK), whereas Prof. J. Pinto (Lisbon University, Portugal) has evaluated reports studying the relationship between gastrointestinal transit and the potential design of site-specific oral targeting devices. Finally, Dr. C. Tuleu (The School of Pharmacy, University of London, UK) has addressed the specific aspects of gastrointestinal transit in children.

I am grateful to the authors to undertake the above reviews and I am also indebted to the scientists, who have peer-reviewed the manuscripts and given valuable advice to the authors and myself, whereby all had to schedule their work around a tight time scale. I am also extremely grateful to the Editor-in-Chief, Professor Alexander T. Florence, the Review Editor, Professor Jürgen Siepmann and the publishers of the International Journal of Pharmaceutics to allow an ad-hoc submission of this special issue, delayed by my long and severe illness.

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