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Tablets made from paper

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Tablets made from paper

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ABSTRACT

The possibility to compress ordinary paper into tablets was systematically investigated in this study. Results proved that tablets can be made from paper, independent of the type of paper used. The tablets appear shiny and with a smooth surface. The pharmaceutical quality was acceptable, i.e. all tablets fulfilled the requirements for tablets according to the European Pharmacopeia. Drug-loaded tablets were produced by compression of drug-loaded paper. Drug loading did not alter the pharmaceutical quality. However, the uncoated tablets possessed an extremely fast disintegration, i.e. intense swelling upon contact with water, which might hamper the swallowing after oral administration. To avoid swelling tablets were successfully coated with a polymer film, leading to a prevention of swelling but immediate disintegration in simulated gastric fluid. In fact, tablets made from paper are a novel and promising strategy for improved oral drug delivery. They can be easily produced without any further excipients and possess pharmaceutical quality according to the European Pharmacopeia.

KEYWORDS

tablets, paper, tissue, drug release, poorly soluble APIs, oral drug delivery, individualized therapy

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