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ポリアミンによる難吸収性薬物の消化管吸収改善:ポリアミンの吸収促進機構と消化管粘膜障害性

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【**Aim**】 The purpose of this research is to study the effects of three kinds of polyamines on the absorption of FDs across the rat intestine, assess their intestinal toxicity and elucidate their intestinal absorption enhancing mechanism.

【**Methods**】 The absorption of FDs across the rat intestinal membranes and intestinal membrane toxicity were examined by an *in-situ* closed loop method. The transepithelial electrical resistance (TEER) was measured using a short-circuit current amplifier.

【**Results**】 Spermine and spermidine could improve the intestinal absorption of FDs and the enhancing effects of these polyamines were greater in the jejunum than in the colon. Of these polyamines, spermine had the greatest enhancing effect both in jejunum and in colon and did not cause any intestinal damage and morphological change. Furthermore, spermine could moderately decrease the TEER value compared with the control, indicating that it may loosen the tight junction of the intestinal epithelium, and thus improve the intestinal transport of drugs.

【**Conclusion**】 Spermine and spermidine could improve the intestinal absorption of FDs in rats and did not cause any significant membrane toxicity, indicating that they would be promising safe absorption enhancers for improving the intestinal absorption of poorly absorbable drugs.