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Running title: The Influence of Diabetes on the Pharmacokinetics of Lapatinib

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Abstract

Background. Diabetes mellitus (DM) is a complex metabolic disorder which affects the function of numerous tissues and alters the pharmacokinetic parameters of many drugs. As many oncological patients are diabetics, it is important to determine the influence of this chronic disease on the pharmacokinetics (PK) of anticancer drugs. Lapatinib is a tyrosine kinase inhibitor (TKI), approved for the treatment of human epidermal growth factor receptor 2 (HER2)-positive metastatic breast cancer. The aim of the study was to compare the PK of lapatinib in normal and type 2 diabetes mellitus (T2DM) model rats. Additionally, the effect of lapatinib on blood glucose concentrations was examined.