Pharmacokinetics Modeling: Insights into Drug Absorption, Distribution, Metabolism, and Elimination

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Abstract

concentration-time proýles and optimize dosin] Mdvᵐw ⁼ ف ɿ ҿP ä oti i ᵐw γ ɒd≥enŠ {

characterizes the movement of drugs throughout the body after absorption. Factors like tissue permeability, protein binding, and blood þow rates a ect drug distribution. Pharmacokinetics models help estimate drug concentrations in di erent tissues and compartments, aiding in understanding target site exposure. In conclusion, pharmacokinetics

concentration-time proýles, facilitates personalized medicine approaches, and aids in optimizing dosing regimens for

to the development of safer and more e ective medications in the future.

Keywords: P a ac e c ; D ab ; D d b ; D e ab ; P a ac e c de

Introduction

P a ac e c de a a c ca e de a d e be a f d e a b d . I e e d f d ab , d b , e ab , a d e a , c a e c ec e a ADME ce e . B a f e e ce e a d ed c d c ce a - e e , a ac e c de de a ab e d be a , d e e , a d fac a e a ed ed c e. P a ac e c e d f d a e ab bed, d b ed, e ab ed, a d e a ed b e b d . I e e a a f d c ce a e e, c e de e e e a a e e c a b a a ab , a f- fe, c ea a ce, a d e f d b . P a ac e c de e a e a ca e a a d c e a de c be e d a c be a f d e b d [1].

Drug absorption

e ab a e e a e d a ac e c , e e d a e a e f e e f ad a e b d ea . Fac c a d f a , e f ad a , a d ca ba e a ec e a e a de e f d ab . P a ac e c de a d a f d ab a e a d ed c e b a a ab f d . F ab , d de d b e b d . a e e d e e f e b d ea a e a d c a e . Fac e c d d b c de e e eab , e b d , a d b d a e . P a ac e c de e e a e d c ce a d e e e a d c a e , d a e e e e [2].

Me ab , a cc e e , e e b a f a f d e ab e . E e , c a c c e P450, a a ca e d e ab . P a ac e c de a ed c d e ab a e , de f e a d -d e ac , a d d a e ad e . E a e c a e e ce e b c d a e e ed f e b d , a e a e c e a d e a c c ea a ce. P a ac e c de a d de e d e a a e , a f- fe, a d c ea a ce, e ab e e a f a a e d e a a d d a e ad e f a e a ed a f c [3].

Pharmacokinetics modeling

P a ac e c de e a e a ca e a a d c e a de c be e d a c be a f d e b d . P ca -ba ed a ac e c de c a e a a ca a d ca a a e e e a ce e acc ac f ed c . e e de a e a ab e f d de e e , a e e e d a e e e , ed c d -d e ac , a d e a a e e ac f d d a a ab d e e. Me ab a c ca ce e e d a e b a f ed e ab e , e cc e e . E e , c a c c e P450, a a ca e d e ab . P a ac e c de a ed c d e ab a e , de f e a d -d e ac , a d d a e ad e .

E a e c a e e ce e b c d a e e ed f e b d . e a e f d e a a e

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