P7 THE COMPARATIVE LOADING-DOSE PHARMACOKINETIC STUDY OF IMMEDIATE- AND MODIFIED-RELEASE PHENYTOIN CAPSULES

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The objective of this study was to compare the pharmacokinetics and bioavailability of immediate-release (Ditoin®) with modified-release phenytoin capsules (Dilantin Kapseals®) after loading-dose in healthy Thai male volunteers. Sixteen volunteers were given a loading dose of approximately 15 mg/kg Ditoin® and Dilantin Kapseals®. After dose administration, serial blood samples were collected over a period of 36 hr. Plasma phenytoin concentrations were determined by HPLC. It was found that Ditoin® could reach plasma therapeutic levels of 10 μg/ml in 9 volunteers (64.29%), while Dilantin Kapseals® raised plasma phenytoin levels to therapeutic level in only 5 volunteers (35.71%). In addition, the mean time to reach the therapeutic level for Ditoin® was significantly faster than those of Dilantin Kapseals®. Moreover, the duration of sustained plasma therapeutic level for Ditoin® was longer than those of Dilantin Kapseals®. It was concluded that Ditoin® was a preferred preparation for loading dose administration.

Key words: phenytoin, bioavailability, pharmacokinetics, immediate-release, modified-release