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Bioequivalence study of abacavir/lamivudine (600/300-mg) tablets in healthy Thai volunteers under fasting conditions

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Abacavir/lamivudine is a combination of two synthetic nucleoside analogues which is indicated in antiretroviral combination therapy for the treatment of human immunodeficiency virus (HIV) infection in adults and adolescents [1]. A generic product of abacavir/lamivudine has been developed with lower price by the Government Pharmaceutical Organization (GPO) to be an alternative choice of related physicians and patients who will gain access to the lower price medicines at the same quality and safety as the reference product. A comparative randomized, single dose, two-way crossover, open-label bioequivalence study of a generic abacavir/lamivudine (600/300-mg) tablets, alacovir of GPO, Thailand and the reference product, Kivexa of Glaxo Operation UK, United Kingdom in healthy Thai volunteers under fasting conditions was conducted with 7 days washout period between the treatments to compare the rate and extent of absorption and evaluate the safety of the formulations of abacavir and lamivudine. Blood samples were collected at predefined time points up to 24 hours. Plasma samples of subjects were analyzed for abacavir and lamivudine using a validated LC-MS/MS method. Non-compartmental model was used for pharmacokinetic analysis and statistical analysis for twenty-seven subjects who completed both treatments. The 90% parametric confidence intervals for the ln-transformed test/reference ratios of $AUC_{0\text{-tlast}}$, $AUC_{0\text{-}\infty}$ and C_{max} were 101.9 (98.37–105.47), 101.8 (98.42–105.37) and 106.2 (98.53–114.54), respectively for abacavir and 102.9 (96.24–110.07), 102.4 (96.08–109.20) and 104.5 (96.36–113.37), respectively for lamivudine. These values were within the acceptable range of 80.00–125.00 [2]. Both formulations were well tolerated. No clinically significant or serious ADR was observed. The results of statistical analysis showed

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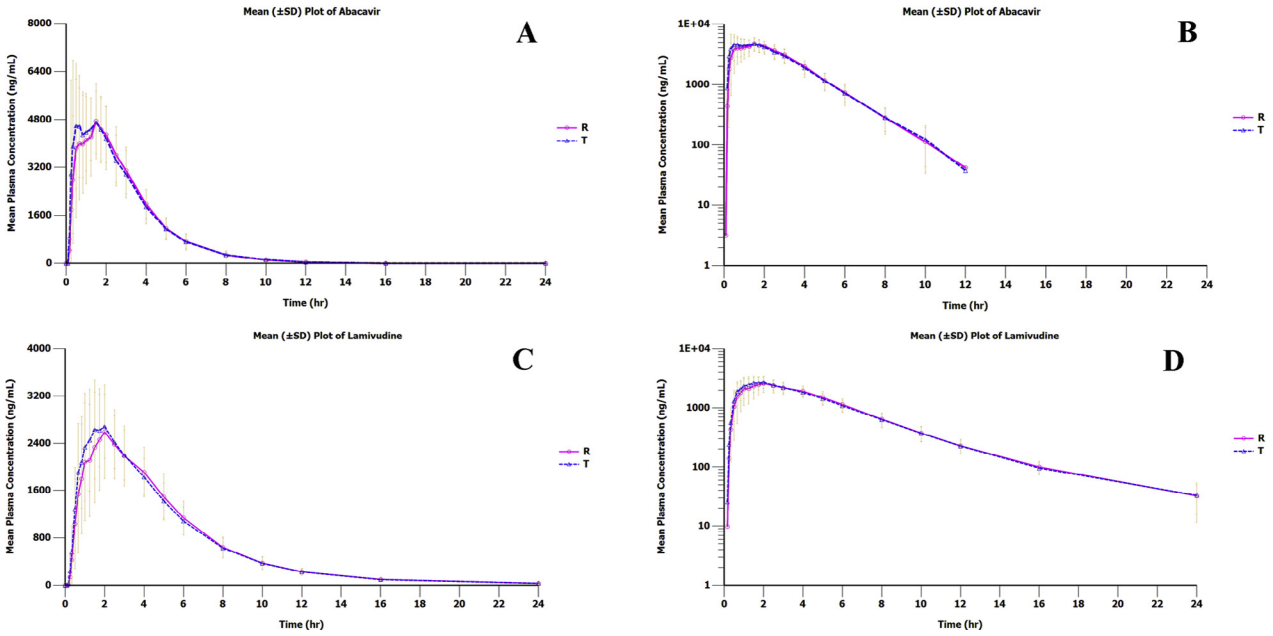

Fig. 1 Linear plot of mean (±SD) plasma concentrations-time profiles and their semi-logarithmic plot after administration of test product (T) and reference product (R) of abacavir (A, B) and lamivudine (C, D).

that both formulations were bioequivalent in terms of rate and extent of absorption. Therefore, this study confirmed that both formulations can be used interchangeably.

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