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ORAWAN NATETANOUMSAK : COMPARATIVE STUDY OF THE BIOAVAILABILITY OF ACYCLOVIR TABLETS IN THAI SUBJECTS. THESIS ADVISOR : ASSO. PROF. PORNTHIP HUAPRASERT, M.D. THESIS COADVISOR : ASSIST. PROF. SUPEECHA WITTAYALERTPANYA, 97 pp. ISBN 974-631-028-3

The bioavailability of two local brands and one original product of acyclovir tablets commercially available in Thailand were evaluated in ten Thai subjects (five males and five females) with past history of herpes simplex viruses infection. A single oral dose of each acyclovir product (200 milligrams x 4 tablets) was given to the subjects. The study was done by using complete cross over design of intervals of 1 week. Blood samples were drawn at 0, 20, 40 minutes, 1, 1.5, 2, 3, 5, 7 and 9 hours after drug administration and the plasma drug concentrations were determined by using high pressure liquid chromatography technique. Pharmacokinetic parameters of acyclovir are not different between sex. The time of peak plasma concentration (T_{max}), the peak plasma concentration (C_{pmax}) and area under the plasma concentration time curve ($AUC_{0-\alpha}$) are not statistically different between each company ($P>0.05$) but absorption rate constant (Ka) of acyclovir tablets produced from one of the local brands is statistically more than from original product ($P<0.05$). The pharmacokinetic parameters in Thai subjects are elimination rate constant (Kel) = 0.28 ± 0.04 hr^{-1} half life ($t_{1/2}$) = 3.50 ± 0.35 hrs. and volume of distribution (Vd) = 11.86 ± 0.54 L/kg.