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KEY WORD : BIOAVAILABILITY/PROPRANOLOL TABLETS/THAI SUBJECTS

SIRIMAS NUNTHASOMBOON : STUDY OF THE BIOAVAILABILITY OF PROPRANOLOL TABLETS IN NORMAL THAI SUBJECTS. THESIS ADVISOR : ASSO, PROF, CHANDHANEE ITTIPANICHPONG, THESIS COADVISOR : ASSO, PROF, DUANGCHIT PANOMVANA NA AYUDHYA, Ph. D. 122 pp. ISBN 974-581-722-8

Three local brands of film coated tablets of propranolol and one original product commercially available in Thailand were evaluated in vivo. The bioavailability of these products were evaluated in ten Thai healthy subjects, five males and five females, using complete cross-over design. A single dose of each propranolol product (40 milligrams x 2 tablets) was given to the subjects. Blood samples were drawn at 0, 1, 1.5, 2, 2.5, 3, 4, 6, 8 and 24 hours after drug administration and the plasma drug concentration was determined by high-performance liquid chromatographic technique with a spectrofluorometer. The results showed that the pharmacokinetic parameters including peak plasma concentration (C_{pmax}), time to peak plasma concentration (t_{max}), area under the plasma concentration time curve from 0 to 24 hours (AUC_{0-24}), absorption rate constant (K_a), elimination rate constant (K_{el}) and elimination half life ($t_{1/2}$) of the four brands were not significantly difference. This finding indicated that all products were bioequivalent. Sex should be considered as one of the factors influencing pharmacokinetic process since the peak plasma concentration and the area under the plasma concentration time curve in females were significantly higher than those found in males ($P < 0.05$). This study showed that the administration of 80 milligrams propranolol caused reduction in pulse rates and both systolic and diastolic blood pressure. However, linear correlation between the drug concentration and the percent reduction in pulse rates and both systolic and diastolic blood pressure could not be observed.