

RELATIONSHIP BETWEEN CAFFEINE CONCENTRATIONS IN SERUM AND SALIVA IN NORMAL VOLUNTEERS.

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The objectives of this research work are to study the relationship between caffeine concentrations in serum and saliva and the pharmacokinetic profiles of caffeine in ten normal Thai volunteers after drinking 2.5 grams of coffee (equivalent to 86.96 mg of caffeine). Blood and saliva samples were collected at 30 minutes and 1, 2, 4, 6, 8, 24 hours, respectively after coffee drinking. Analysis of serum caffeine and saliva caffeine were performed by using HPLC technique. The result showed good correlation between caffeine concentrations in serum and saliva after 1 hour of caffeine administration ($r = 0.9196$). The mean time to reach peak concentration (T_{max}) was 1.35 ± 1.00 hours for serum caffeine and 0.65 ± 0.2415 hour for salivary caffeine. The elimination half-life of caffeine in serum was 7.4150 ± 2.1877 hours and in saliva was 9.112 ± 4.287 hours, but there were no statistically significant difference between them. We conclude that saliva sampling could serve as a useful and non-invasive technique for determining the caffeine concentrations instead of blood sampling.