Improved Oral Bioavailability of Theophylline, a Narrow Therapeutic Index Drug by Ginger

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SUMMARY. The effect of commonly used dietary ingredient like ginger on the pharmacokinetic of theophylline in rabbits was investigated. In the experimental groups, theophylline (16 mg/kg) was given orally to the rabbits. Where aqueous saline suspension of ginger (264 mg/kg, p.o.), was given to the rabbits and the blood samples were withdrawn at different time intervals from marginal ear vein after dosing and theophylline in plasma was analyzed by HPLC method. The coadministration of ginger increased the $C_{\text{max}}$ and $AUC_{0-t}$ of theophylline; the change was observed by 12.21 and 11.8% ($p < 0.05$), respectively, and 12.48% decrease in the $CL/F$. It was also observed that $T_{\text{max}}$ increased when coadministered with herb though this had no significant difference statistically. Above findings indicated that ginger could cause increase in the bioavailability and decrease in the clearance and elimination rate constant of theophylline.

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