

ABSTRACT

Ma-Shing-Gang-Shyr-Tang (MSGST), a traditional Chinese medicine formulation containing Ephedrine herba, Armeniacae semen and Glycyrrhizae radix, are widely used in the treatment of acute bronchitis, lobar pneumonia, fever and throat sore. In this study, the pharmacokinetics and bioavailability of the MSGST in the rabbits were evaluated.

A HPLC method was developed for determination of the active constituents of the MSGST, included ephedrine, amygdalin and glycyrrhizic acid in plasma samples.

After IV administration of the MSGST to the rabbits, the plasma level-time profiles of these three compounds were adequately described. The Ephedrine and glycyrrhizic acid was an open two -compartment model, and amygdalin was an open one-compartment model. The elimination half-lives of ephedrine, amygdalin and glycyrrhizic acid were 66.5 ± 7.9 , 80.5 ± 8.1 and 153.4 ± 15.5 minutes respectively.

The absolute bioavailability of ephedrine, amygdalin and glycyrrhizic acid after oral administration of the MSGST were 21.14, 9.09 and 5.46 % respectively. This result suggests that repeated dose is necessary for MSGST in clinical use.