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The Effect of Licorice Drink on the Systemic Exposure of Verapamil in Rabbits.

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Source

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Abstract

The effect of licorice root drink (aqueous extract of *Glycyrrhiza glabra* Fabaceae) on plasma concentration of verapamil, using rabbits as animal model, was investigated. Two groups of locally inbred Newzeland male rabbits were used. The first group was given a single dose of licorice drink (4 ml/kg body weight) concomitantly with 30 mg/kg verapamil, and the second group was given a daily dose of licorice drink (4 ml/kg body weight) for two weeks, with single doses of verapamil on days, 7 and 14. Single dose treatment resulted in a nonsignificant decrease in mean C(max) by 33.2% ($P = 0.41$), but in a significant decrease of AUC(0-24) and AUC(0-infinity) by 60.5% and 63.6%, respectively ($P = 0.01$). First period of multiple dose treatment study (7 days), resulted in a significant reduction in mean C(max), AUC(0-24) and AUC(0-infinity) by 55.0%, 47.0% and 45.7%, respectively ($P = 0.02$, 0.03 and 0.03, respectively). A more pronounced effect was seen at second period of multiple dose treatment study (14 days), where the corresponding decrease was, 85.4%, 76.8% and 73.3%, respectively ($P < 0.01$). Mean T(max) was significantly increased 4.2-fold over control period at day 14 of multiple dose study ($P = 0.02$). In conclusion, licorice root drink decreased verapamil systemic exposure both after single dose and after daily doses for 14 days.