ntally-induced hepatic cirrhosis on the pharmacokinetics of orally administered praziquantel in the rat

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Abstract:

The effects of pretreatment with the hepatotoxin, thioacetamide, on the pharmacokinetics of praziquantel, a broad spectrum schistosomicidal agent with a high hepatic clearance, were studied in male Wistar rats. Animals were pretreated with either thioacetamide (25 mg in 100 ml of drinking water, n = 5) for 24 weeks or received plain drinking water (n = 5) over the same period. After the treatment period, praziquantel was administered orally (25 mg/kg as a 20 mg/ml solution in PEG 200) as a single dose. Blood samples (0.3 ml) were collected from the clipped tail at various times up to 4 h post administration. Plasma was analysed for praziquantel using an HPLC method. Mean peak plasma praziquantel concentrations were approximately 1.0 mg/l for both groups. The time to reach peak concentrations, and post-peak elimination half-life, were approximately 0.7 h and 1.0 h, respectively, for both groups. Similarly, mean AUC was approximately 2.0 mg.h/l for both groups. Statistical comparisons indicated that there were no significant differences in the pharmacokinetic parameters estimated in the two groups of animals. It was concluded that thioacetamide-induced hepatic cirrhosis has no effect on the pharmacokinetics of orally administered praziquantel in the rat, at the dose level studied