

RESEARCH NOTE

EFFECT OF PRAZIQUANTEL TREATMENT ON HEPATIC EGG GRANULOMAS IN MICE INFECTED WITH PRAZIQUANTEL-SUSCEPTIBLE AND -RESISTANT *SCHISTOSOMA JAPONICUM* ISOLATES

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Abstract. Currently, praziquantel is the drug of choice for treatment of human *Schistosoma japonicum* infections in China. Although no evidence of resistance to praziquantel has been detected following repeated and extensive chemotherapy with praziquantel for more than 30 years in endemic foci of the country, there were several patients with *S. japonicum* infection who failed in standard praziquantel treatment, and praziquantel-resistant isolates of *S. japonicum* have been successfully generated in a mouse model. This study assessed the effect of praziquantel treatment on pathological damages to mice infected with praziquantel-susceptible and -resistant *S. japonicum* isolates. Mice were each infected percutaneously with 20 cercariae of praziquantel-resistant and -susceptible *S. japonicum* isolates, and then randomly grouped. Mice in the treatment groups were administered a single dose (150 kg/mg) of praziquantel at day 35 post-infection, while infected but untreated mice served as controls. Mice were sacrificed on day 42 or 49 post-infection, the area and circumference of the hepatic egg granulomas in fresh liver specimens were measured. In infected but untreated mice, there were no significant differences in the area and circumference of the hepatic egg granulomas between praziquantel-resistant and -susceptible isolates, whereas in praziquantel-treated mice, the area or circumference of hepatic egg granulomas were significantly greater in mice infected with the praziquantel-resistant than in those harboring

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praziquantel-susceptible isolates ($p < 0.01$). These results demonstrate praziquantel treatment causes more reductions in the size of hepatic egg granulomas in mice infected with praziquantel-susceptible *S. japonicum* isolates than in those infected with drug-resistant parasites, indicating eggs from praziquantel-susceptible isolates are more sensitive to praziquantel than those from the drug resistant isolates.

Keywords: *Schistosoma japonicum*, drug resistance, hepatic egg granuloma, praziquantel