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EFFECT OF PRAZIQUANTEL ON ULTRASTRUCTURES OF GUT EPITHELIA OF CLONOCHIS SINENSIS

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ABSTRACT Praziquantel was given intragastrically to rats at a single dose of 300 mg/kg two months after infection with Clonorchis sinensis. The electron microscopy of Clonorchis sinensis removed from the rats 1-2 h after medication showed some changes in the gut epithelia.

One hour after medication the distal microvilli (lamellae) were slightly swollen at some places and the dots within the microvilli became indistinct or even disappeared, and the granular endoplasmic reticulum (GER) was mainly expanded. 3-6 h part of the microvilli were adhered to each other and the granular endoplasmic reticulum (GER) were further expanded. 12-24 h partial lysis of the microvilli occurred. 36 h the distal microvilli were further lysed and degenerated.

The results showed that praziquantel had a remarkable damaging effect on the gut microvilli. The damage tended to be greater the longer after the medication. And the nearest the place was to the gut lumen, the severer the damage would be.

KEY WORDS Clonorchis sinensis; praziquantel; intestines; epithelium; microvilli;
Fig 1. Gut epithelia of Clonorchis sinensis in rats given praziquantel 300 mg/kg 2 months after infection with 20 metacercariae. A: Normal. ×21,000. B: Microvilli (Mi) were slightly swollen and the cores became indistinct in 1 h. ×30,000. C: The granular endoplasmic reticulum (GER) were expanded in 3 h. ×24,000. D: Partial lysis of distal microvilli (arrow) in 12 h. ×31,000. E: The distal ends of the remaining microvilli were dilated to become ring form (arrow) in 24 h. ×51,000. F: Microvilli were further lysed and degenerated (arrow) in 36 h. ×18,000.

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