

论文

吡喹酮对日本血吸虫雄虫的Ca²⁺,Mg²⁺,K⁺与Na⁺的含量及⁴⁵Ca²⁺在虫体内分布的影响

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摘要:

日本血吸虫雄虫在4℃或37℃的HBS及无⁴⁵Ca²⁺的HBS中经吡喹酮1或30μg/ml作用0.5~2h后,未见虫的Ca²⁺,Mg²⁺含量有明显变化,但除4℃的HBS组外,余2组虫的K⁺含量明显减少,而虫的Na⁺含量的增加则不明显。在含30 mM Mg²⁺的HBS中,雄虫经吡喹酮作用1h后,虫的Mg²⁺含量明显增加。在37℃的HBS中,血吸虫雄虫经吡喹酮1μg/ml作用5~60min后,虫的皮层胞质中的⁴⁵Ca²⁺含量的百分比较各相应对照组的明显减少,而虫体肌肉的则相反。在4℃的HBS或无⁴⁵Ca²⁺的HBS中,吡喹酮对⁴⁵Ca²⁺在虫体内的分布无明显影响。

关键词: 日本血吸虫雄虫 吡喹酮 钾 钠 钙 镁

EFFECT OF PRAZIQUANTEL ON Ca²⁺, Mg²⁺, K⁺ AND Na⁺ CONTENT AND DISTRIBUTION OF ⁴⁵Ca²⁺ IN MALE SCHISTOSOMA JAPONICUM

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Abstract:

When male *Schistosoma japonicum* maintained in HBS at 4 or 37℃ and HBS without calcium were exposed to praziquantel 1 or 30 μg/ml for 0.5~2h, no apparent change in Ca²⁺ content of the worms was observed. With the exception of the group HBS at 4℃, a significant decrease in K⁺ content of the worms was detected in another 2 groups. On the other hand, Na⁺ content of the worms exhibited somewhat increase after treatment with praziquantel but not significantly. Incubation of male schistosomes in HBS with 30 mM Mg²⁺ resulted in an increase in Mg²⁺ content of the worms caused by praziquantel. Similar changes, compared to HBS group at 37℃, in the 4 element values were detected in male worms perfused out from infected mice treated orally with praziquantel 100~300 mg/kg. When male schistosomes maintained in HBS at 37℃ were exposed to praziquantel 1 μg/ml for 5~60 min the percentage of radioactivity distributed in tegumental cytoplasm decreased significantly while that of the worm musculature increased significantly. When male worms were incubated in HBS at 4℃ or HBS without calcium, no apparent change in distribution of radioactivity caused by praziquantel was detected.

Keywords: Calcium (Ca²⁺) Magnesium (Mg²⁺) Potassium (K⁺) Sodium (Na⁺) Male *Schistosoma japonicum* Praziquantel

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