

简报

蒿甲醚对日本血吸虫核苷摄入和核酸含量的影响

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摘要

目的: 观察蒿甲醚 (Art) 对日本血吸虫核苷摄入和核酸含量的影响。方法: 感染小鼠 1 次灌服 (ig) Art 300 mg/kg 后 24 h 或 48 h, 分别测定雌虫 (♀)、雄虫 (♂) 的 RNA 和 DNA 含量。另取经 Art 作用 24 h 后的♀及♂虫体, 作体外培养 2 h 或 4 h, 测定虫体对 3 H 腺苷、[5-3 H] 尿苷和 [甲基-3 H] 胸苷的摄入量以及上述 3 H 标记核苷摄入虫体核酸的量。结果: 经 Art 体内作用 48 h 后, 血吸虫♀虫的 RNA 和 DNA 含量分别较对照组减少 51.6% 和 23.5%, 差异均显著, 而♂虫 RNA 含量减少 42.4%。♀及♂虫体经 Art 作用后移置体外培养 2 h 或 4 h, ♀虫对 3 种 3 H 标记核苷的摄入量均较对照组的明显为少, 减少率达 35.2%~50.1%。体外培养 2 h, [甲基-3 H] 胸苷掺入♀虫 DNA 的量较对照组减少 71.4%, 培养 4 h 后, [3 H] 腺苷掺入♀虫 RNA 和 DNA 的量较对照组减少 65.2% 与 50.0%。结论: Art 对日本血吸虫, 尤其是♀虫的核酸代谢有抑制作用。

关键词 [日本血吸虫](#) [核酸](#) [~3H标记核苷](#) [蒿甲醚](#)

分类号

EFFECT OF ARTEMETHER ON NUCLEOSIDE UPTAKE AND NUCLEIC ACID CONTENT IN SCHISTOSOMA JAPONICUM *

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Abstract

AIM: To observe the effect of artemether (Art) on nucleoside uptake and nucleic acid content in Schistosoma japonicum. METHODS: RNA and DNA contents of both male and female worms harbored in mice treated intragastrically (ig) with Art 300 mg/kg for 24 h or 48 h were determined, respectively. After in vivo drug treatment, the schistosomes recovered were in vitro maintained in drug-free medium containing [3H]adenosine, [5-3H] uridine or [methyl-3H]thymidine at a final concentration of 37 MBq/L or 74 MBq/L for 2 h or 4 h, the tritiated nucleoside uptake and incorporation into nucleic acid of schistosomes were measured. RESULTS: The RNA and DNA contents of female worms recovered from the host 48 h after dosing were markedly decreased by 51.6% and 23.5%, respectively, while the RNA content of male worms showed 42.4% reduction. When the above-mentioned schistosomes were in vitro exposed to the tritiated nucleoside for 2 h or 4 h, apparent decrease in tritiated nucleoside uptake with reduction rates of 35.2%~50.1% was seen in female worms. The incorporation of [methyl-3H]thymidine into the female worm DNA 2 h after incubation was reduced by 71.4% while the incorporation of [3H]adenosine into the female worm RNA and DNA 4 h after incubation was reduced by 65.2% and 50.0%, respectively. CONCLUSION: Art exhibited an apparent effect on the nucleic acid metabolism in schistosomes, especially in female worms.

Key words [Schistosoma japonicum](#) [nucleic acid](#) [tritiated nucleoside](#) [artemether](#)

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