

## 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 [<sup>3</sup>H]adenosine, [<sup>5-<sup>3</sup>H</sup>]uridine or [methyl-<sup>3</sup>H]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-<sup>3</sup>H]thymidine into the female worm DNA 2 h after incubation was reduced by 71.4% while the incorporation of [<sup>3</sup>H]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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## 男婴尿路阴道毛滴虫感染一例

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患儿,男性,11个月。因发热5 d入院。5 d来,患儿无鼻塞或咳嗽。母乳喂养,生长发育尚可。既往病史无特殊。体温 39,贫血貌,皮肤及粘膜苍白。咽稍充血,心肺正常,肝右肋下 3 cm,脾左肋下 6 cm,外生殖器无异常。血检:Hb 54 g/L, RBC  $2.22 \times 10^{12}/L$ , WBC  $30.0 \times 10^9/L$ , N 0.40, L 0.57,红细胞形态大小不均,可见较多靶形红细胞, Hb A<sub>2</sub> 5.7%。拟诊为地中海贫血,上呼吸道感染。先后使用氨苄青霉素、红霉素及庆大霉素抗感染。5 d后咽充血消失, WBC下降,但体温仍持续不退。经连续 2 d尿常规检查均发现活动的阴道毛滴虫,遂诊断为尿路阴道毛滴虫感染,改用 5%灭滴灵治疗,剂量为每日 5 ml/kg,静脉滴注,连续 5

d。用药 2 d后体温降至正常,复查尿阴道毛滴虫转阴。再经输血治疗后出院。

阴道毛滴虫多见于成年女性阴道和尿道感染,男性尤其幼小男婴阴道毛滴虫尿路感染临床少见。阴道毛滴虫感染可无症状或症状轻微。本例有持续发热表现,经灭滴灵治疗后体温迅速恢复正常,阴道毛滴虫转阴,诊断为尿路阴道毛滴虫感染成立。表明发热可能是由于小儿阴道毛滴虫尿道感染所致。因此,当小儿持续发热,经多种抗生素治疗无效时,应考虑寄生虫感染的可能。

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