三苯双脉对美洲钩虫角皮及感染仓鼠小肠影响的光镜及电镜观察

石建华，任海兵，高志岩，杨光华，张超成

摘要  本研究采用三苯双脉对美洲钩虫角皮及感染仓鼠小肠影响的光镜及电镜观察，采用150 mg/kg的三苯双脉后，对感染18 h后，仓鼠小肠的角皮及沉积在小肠内的钩虫角皮的光镜及电镜观察。

关键词  三苯双脉（M，N，N',N'-四-(1-二甲基亚氨基）苯甲酸），感染鼠，仓鼠小肠，电镜，光镜

三苯双脉（N,N,N',N'-四-(1-二甲基亚氨基）苯甲酸），感染鼠，仓鼠小肠，电镜，光镜

三苯双脉（N,N,N',N'-四-(1-二甲基亚氨基）苯甲酸），感染鼠，仓鼠小肠，电镜，光镜

Materials and methods

三苯双脉（tribendimid）系由我所药物化学研究室合成，用16%黄磷酸配制成100 mg/ml的溶液。

仓鼠♂♀各10只，体重64±7 g，按常规美洲钩虫感染3期幼虫500条，感染后约30 d，粪检虫卵阳性即可治疗。

光学显微镜及扫描电镜观察  上述感染鼠1次腹腔注射三苯双脉150 mg/kg后，1，2，4，8，16及24 h，用新鲜结扎腹腔处死，剖腹取小肠，用10%中性福尔马林固定作病理切片，部分沿肠轴纵剖开，部分沿横剖开，取标本做电镜观察。结果表明，电镜下观察到电镜光镜下未见有何明显变化。

Tribendimid

1987年6月27日收稿
1988年5月27日接受
*中国科学院上海药物研究所
*世界卫生组织血吸虫病和丝虫病合作中心

Results

组织学观察  共观察感染对照和三苯双脉各3-6条。
The specific activity of ribosome in the cell is significantly lower than that in the normal cell. Therefore, efficient and selective ribosome inhibitors might have potential therapeutic effects.

Discussion

The results of this study indicate that ribosomal RNA and ribosome are essential for the survival of the cells. The inhibition of ribosome synthesis by the drug might lead to the cell death.

References

Light and electron microscopic observations on effects of tribendimidine on cuticle of *Necator americanus* and small intestinal mucosa of infected golden hamsters

XIAO Shu-Hua, REN Hai-Nan, DAI Zhi-Qiang, YANG Yuan-Qing ZHANG Chao-Wel

(Institute of Parasitic Diseases, Chinese Academy of Preventive Medicine, Shanghai 200020)

ABSTRACT Golden hamsters infected with *Necator americanus* were treated orally with a new anchiminic tribendimidine (N, N'-[bis-1'-(1-dimethyl amino ethylidene amino)phenyl]-1,4-phenylene dimethyldiide amino) at a single dose of 150 mg/kg. One h after medication, some worms showed curricular swelling, fusion of transverse striations and detachment of host leucocytes onto the worm's damaged curricular surface. Four h post treatment, the cuticle revealed a moderate swelling or even erosion. Meanwhile, the ventral cutting plates appeared to be swollen. After 8-24 h, severe curricular swelling, erosion and peeling in female worm tails and male copulatory bursa were seen. No increase in lesions in the small intestinal mucosa of infected golden hamsters were observed 4-8 h after medication.

KEY WORDS tribendimidine, N, N'-[bis-1'-(1-dimethyl amino ethylidene amino)phenyl]-1,4-phenylene dimethyldiide amino; *Necator americanus*; cuticle; leucocyte; intestinal mucosa; scanning electron microscopy

*Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai 200231
WHO Collaborating Center for Malaria, Schistosomiasis and Filariasis.
Fig 1, Histological alterations of worms and small intestine of golden hamster infected with Necator americanus after treatment with a single oral dose of tribendimidine 150 mg/kg, HE stain, A: The small intestinal mucosa showing bite by buccal capsule of *N. americanus* and numerous eosinophils infiltration in mucosa, B: The villus intestinalis showing bite by buccal capsule and inflammatory cells infiltration in mucosa, C: The mucosa showing slight inflammatory cells infiltration 9 h after medication, D: *N. americanus* showing leucocyte attachment to its damaged cuticle 4 h after medication, E: *N. americanus* showing polymorphonuclear leucocytes attachment to its damaged cuticle 3 h after medication.

(See p 91)
Fig 2. Scanning electron microscopy on cuticle of *N. americanus* after being treated with a single oral dose of tribendimidin in 150 mg/kg. A) Control, showing cuticular transverse striations; B) 1 h after medication, showing fusion and disruption of cuticular striations; C) Attachment of host leucocytes onto cuticle; D) 4 h after the medication, showing some vesicle formations on cuticle; E) 24 h after the medication, showing severe erosion and peeling in the back of male worm's tail.

(See p 91)