

Efficacy and safety of mefloquine, artesunate, mefloquine-artesunate, tribendimidine, and praziquantel in patients with *Opisthorchis viverrini*: a randomised, exploratory, open-label, phase 2 trial.

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Source

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ABSTRACT

BACKGROUND:

Praziquantel is the only drug available for treatment of *Opisthorchis viverrini*, although in-vivo studies point to activity of mefloquine, artesunate, and tribendimidine against this liver fluke. We aimed to assess the efficacy and safety of these drugs compared with that of praziquantel in patients with *O viverrini* infection.

METHODS:

We did a randomised open-label trial between February and April, 2010, in the Saysetha district, Attapeu Province, Laos. Eligible patients were school children aged 10-15 years who had *O viverrini* infections. Patients were randomly assigned to one of five different treatment groups by use of a computer-generated randomisation code. We assessed efficacy as cure rate and egg reduction rate in intention-to-treat and per-protocol analyses. The trial was registered with Current Controlled Trials, ISRCTN23425032.

RESULTS:

125 children were randomly assigned: 25 received mefloquine, 24 artesunate, 24 mefloquine-artesunate, 27 tribendimidine, and 25 praziquantel. 19 patients were lost to follow-up. In the intention to treat analysis, 14 patients receiving praziquantel were cured compared with none with mefloquine, one with artesunate (odds ratio 0.03, 95% CI 0.004-0.29), one with mefloquine-artesunate (0.03, 0.004-0.29), and 19 with tribendimidine (1.87, 0.60-5.85). Egg reduction rate was 98.4% for praziquantel, 30.2% for mefloquine (egg reduction-rate ratio 1.61, 95% CI 0.21-0.72), 31.5% for artesunate (0.43, 0.23-0.80), 41.3% for mefloquine-artesunate (0.60, 0.31-1.10), and 99.3% for tribendimidine (1.00, 0.44-2.30). Most adverse events were mild or moderate and affected all treatment groups; serious adverse events--vertigo, nausea, vomiting, and anxiety--were reported only by patients taking mefloquine or mefloquine-artesunate.

INTERPRETATION:

Tribendimidine seems to be at least as efficacious as the drug of choice, praziquantel, for the treatment of *O viverrini* infections; both drugs were well tolerated. Mefloquine, artesunate, and mefloquine-artesunate did not show an effect. Tribendimidine should be further investigated with large clinical trials.

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