In vitro effect of artesunate against Acanthamoeba spp.

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Abstract

The in vitro effects of artesunate, the antimalarial agent, and metronidazole against Acanthamoeba spp were studied. Acanthamoeba Group II and Acanthamoeba polyphaga-like were isolated from natural water courses in Buri Ram Province, northeastern Thailand. The trophozoites were axenically cultured in PPYG medium and treated with artesunate in a concentration of 5-700 microg/ml. Artesunate showed its ability to inhibit the growth of acanthamoeba trophozoites: 54% at 50 mg/ml (after six days of exposure) and 93.2% at 100 microg/ml (after two days). The 500-700 microg/ml concentration caused inhibition on the first day of more than 93.2%; excystation did not occur in drug-treated medium. The present study shows that artesunate is amebastatic rather than amebicidal in an axenic culture of trophozoites at the highest concentration of 100 microg/ml. Metronidazole, in concentrations of 5-1,000 microg/ml, had no effects on either trophozoites or cysts.

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