

## ORIGINAL PAPER

# Effects of homeopathic medications *Eupatorium perfoliatum* and *Arsenicum album* on parasitemia of *Plasmodium berghei*-infected mice

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**Malaria is one of the most important parasitic diseases in the world and a major public health problem because of emerging drug-resistant strains of *Plasmodium*. A number of synthetic and natural compounds are now being analysed to develop more effective antimalarial drugs. We investigated the effect of homeopathic preparations of *Eupatorium perfoliatum* and *Arsenicum album* on parasitemia using a rodent malaria model.**

**We found significant inhibitory effect on parasite multiplication with both medications with a level of 60% for *Eupatorium perfoliatum* at a 30 CH potency. *Arsenicum album* 0/6 gave 70% inhibition but this was less stable than *Eupatorium perfoliatum*. The number of schizonts was higher in animals treated with homeopathic medications. Although the mechanism of action is unknown, these agents would be good candidates as alternative or complementary medications in the treatment of malaria. *Homeopathy* (2006) 95, 223–228.**

**Keywords:** *Plasmodium berghei*; *Eupatorium perfoliatum*; *Arsenicum album*; Balb/c mice; Homeopathic medications

## Introduction

Malaria is a major parasitic disease in humans with more than 300 million cases and over 1 million deaths reported every year.<sup>1</sup> Despite numerous attempts to fight malaria, such as control of vectors and chemoprophylaxis, success has been limited. At the present, the most effective way to control this disease is by the use of antimalarial drugs,<sup>2</sup> however, the spread of *Plasmodium falciparum* strains resistant to chloroquine

and other anti-malarial drugs, such as mefloquine and sulfadoxine–pyrimethamine combinations, is increasing.<sup>3,4</sup> This makes it imperative that new therapeutic alternatives are sought, especially since some of those strains display multidrug-resistant phenotypes, even against analogues of chloroquine.<sup>4</sup>

We evaluated the effect of homeopathic preparations of *Eupatorium perfoliatum* and *Arsenicum album*, on parasitemia of BALB/c mice infected with *Plasmodium berghei*. This rodent malaria model has been successfully used to evaluate antimalarial properties of several compounds and the results obtained were similar when they were tested against human parasites, such as *Plasmodium falciparum*.<sup>3–7</sup>

Plants belonging to the *Eupatorium* genera have been studied in some depth and several compounds with varying effects identified. Some have analgesic and antiinflammatory properties,<sup>8–11</sup> while others have

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