

vasculature, which is primed for neutrophil invasion and activation. Endotoxin exacerbate endothelial cell dysfunction, increasing endothelin-I and reducing Endothelial Nitric Oxide Synthase (eNOS) activity. Ischaemic and inflammatory stimuli could also activate MMPs, leading to digital failure: destruction of the basement membrane bonding the interlocking lamellar leaflets, leads to detachment of phalanx bone from the hoof wall. Ischemia (I) triggers an inflammatory response that precipitates cell death during reperfusion (R).

Nitric Oxide (NO) is an inflammatory mediator produced by macrophages and neutrophils during the inflammatory response. It is synthesised via oxidation of L-Arginine by Nitric Oxide Synthetase and plays an ambiguous role during I/R. Additionally, NO mediates the activation of Soluble Guanylyl Cyclase, which can also be activated by endogenous Carbon Monoxide (CO). Metabolism of heme and lipid peroxidation, which generate CO, are both enhanced during inflammation.

**Methods:** 5 horses (4 mares and 1 stallion) diagnosed with acute severe laminitis were treated with homeopathic remedies; 10 healthy horses were selected to determine whether homeopathic remedies are useful and safe as a treatment for equine laminitis, if the level of NO can be re-established and the role of CO. Laminitic horses were administered oral homeopathic treatment only: *Aconitum* 30ch, *Apis* 15ch, *Arnica* 7ch, *Belladonna* 9ch, *Bryonia* 9ch and *Nux vomica* 9ch – 2 granules of each remedy every hour, 10 times per day for 10 days. Variables evaluated included signs of pain, grade of lameness, digital pulse, NO, Nitric Oxide Synthetase Expression, CO and Hemeoxygenase Expression in plasma levels.

**Results:** Homeopathy-treated horses showed an obvious improvement after one day of treatment. Clinical signs of the disease (pain, severe lameness) had completely disappeared at the third day without side effects. NO diminished in laminitis has significant recovery levels in mares. CO and HO-1 levels were higher than in healthy horses.

**Keywords:** Horses, Ischemia, Laminitis

## Literature review of the in vitro and in vivo evidence for homeopathic medicines in the treatment or prevention of malaria

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**Background:** Malaria is a vector borne infectious disease that affects over 200 million people worldwide every

year. Access to treatments on a large-scale is challenging due to the vast geographical and rural spread. Homeopaths have treated infectious disease throughout its 200+ year history however robust data on the efficacy and effectiveness of homeopathic treatments for malaria are lacking.

**Objectives:** To explore the research that has been conducted regarding the use of homeopathy for malaria.

**Methods:** A literature search was performed on the following databases: EBSCO, CINAHL Plus with Full Text, Humanities International Complete Medline with Full Text, Social Sciences Abstracts (H.W. Wilson) and Google Scholar. The search terms used were: “malaria and homeopathy” and “plasmodium and homeopathy”. Articles were deemed ‘relevant’ if the article discussed homeopathy in relation to malaria or anti-malarial properties, and/or if they indicated treatment decisions.

**Results:** Three studies were deemed relevant in this search. Rajan and Bagai studied an in vitro culture, Bagai, Rajan, and Kaur explored an in vivo test and the State Health Resource Centre in Chhattisgarh explored the distribution of a homeopathic intervention to almost 100,000 people.

**Conclusions:** There is minimal data examining homeopathic treatments in the treatment and prevention of malaria. The few studies have shown some interesting findings and further research is needed to discern details such as an ideal choice of potency and ideal amount of remedy repetition for optimal results in this population.

**Keywords:** Homeopathy, Homeoprophylaxis, Malaria, Plasmodium, anti-malarial, *China*, *China sulph*

## Rationale for a pragmatic randomised controlled trial of the effectiveness of treatment by homeopaths for ADHD

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**Objective:** To design a trial with minimal potential for bias (maximal internal validity) representing treatment by homeopaths as experienced in routine clinical practice (maximal external validity) informing ADHD stakeholders such as families and decision makers in health, education, social work and criminality.

**Methods:** Recruitment of a long term observational cohort of children with ADHD. Measurement of subjective outcomes (parent measurement of core ADHD symptoms, anger and wellbeing); blinded outcomes (teacher rated core ADHD symptoms, classroom disruption); and objective outcomes (criminality, school exclusion, attendance, and costs). A random selection of cohort participants meeting trial criteria is offered treatment by homeopaths or