

Evaluation of *Zingiber officinale* L. efficacy on reducing nausea & vomiting due to doxycycline for brucellosis treatment

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Background and Aims: Human brucellosis remains the most common zoonotic disease (caused by facultative intracellular Gram-negative bacteria of the genus *Brucella*) worldwide. The first-line therapy for brucellosis is the combination of doxycycline, 100 mg bid. for 6 weeks with an aminoglycoside (streptomycin, 1 g/day intramuscularly for 2–3 weeks). The combination of rifampin (600–900 mg/day orally) and doxycycline for 6 weeks is suggested as the principal alternative therapy. Nausea and emesis are common side-effects of doxycycline. Ginger (*zingiber officinale*) is often advocated beneficial for nausea & vomiting treatment. As there was no report regarding the effects of ginger in treatment of nausea due to doxycycline the purpose of present study was to further evaluate the effectiveness of ginger in patients with this challenge.

Methods: In this clinical trial study 108 patients entered the study and randomly assigned into 2 groups. Patients in group 1 received capsules containing 500 mg ginger bid. and in group 2 received placebos during the first 10 days of the treatment period. After 4 days wash-out period we changed order. The severity and relief of symptoms before and after each period were evaluated by two scoring system. T-test and Chi2 were used for statistical analyses of possible differences.

Results: The visual analog scores of post-therapy minus baseline nausea decreased significantly in the ginger group (2 ± 1.7) compared with the placebo group (0.8 ± 2.1 , $P = .012$). The number of vomiting episodes also decreased significantly in the ginger group (1.6 ± 1.1) compared with the placebo group (0.4 ± 1 , $P < 0.001$). Likert scales showed that 30 of 54 in the ginger group had improvement in nausea symptoms compared with 16 of 54 in the placebo group ($P < 0.001$).

Conclusions: Ginger is effective and safe for relieving the severity of nausea and vomiting of doxycycline for brucellosis treatment.

Keywords: Ginger; Nausea; Vomiting; Doxycycline; Brucellosis