

A SINGLE DOSE OF DOXYCYCLINE IN COMBINATION WITH DIETHYLCARBAMAZINE FOR TREATMENT OF BANCROFTIAN FILARIASIS

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Abstract. Standard treatment of lymphatic filariasis with diethylcarbamazine (DEC) is associated with systemic adverse reactions, thought to be due to the release of microfilariae material and *Wolbachia* endosymbiotic bacteria into the blood. Combination treatments with doxycycline for 3-8 weeks are more effective than standard treatment. However, long-term use of antibiotics may contribute to drug resistance and are not practical for use in remote areas. We assessed whether a single dose of doxycycline combined with the standard DEC regimen would reduce the incidence and severity of adverse reactions and increase the efficacy of standard treatment. Forty-four subjects from Tak Province were recruited into the randomized double-blind clinical trial study: 25 received DEC (300 mg) combined with a placebo, and 19 received DEC (300 mg) combined with doxycycline (200 mg). The incidences of adverse reactions to standard treatment were lower in the doxycycline group (45.5%) than in the placebo group (58.8%). Severe reactions occurred only in the placebo group (3 of 25 subjects). The severity of adverse reactions was significantly lower in the doxycycline group (mean score 0.45) than in the placebo group (mean score 1.17). The levels of IL-6 and *Wolbachia* DNA in the plasma were significantly lower in the doxycycline group. The filarial antigen levels were significantly lower in the doxycycline group at months 6 after treatment.

Key words: bancroftian filariasis, diethylcarbamazine, doxycycline, adverse reaction

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