Cho Min Naing et al., J Bacteriol Infec Dis 2019, Volume 3

EFFICACY OF ANTI-FILARIAL DRUGS IN REDUCTION OF MF PREVALENCE IN ANIMAL SPECIES: A SYSTEMATIC REVIEW

Cho Min Naing[1, 2], Jonathan D King[3] and **Joon Wah Mak[1]**
[1]International Medical University, Malaysia
[2]James Cook University, Australia
[3]World Health Organization, Geneva

Background: The Global Programme to Eliminate Lymphatic Filariasis (GPELF) was launched in 2000 with a goal of eliminating the disease by 2020. Albeit with concerted efforts, lymphatic filariasis remains a public health problem in some endemic countries. Besides, brugian infections in the human hosts, zoonotic filariae involving cats and dogs have been reported in endemic countries including Thailand and Malaysia.

Objective: To characterize the efficacy of anti-filarial drug interventions on animal population.

Methods: Researchers performed a systematic review following a PRISMA checklist.

Findings: Eight studies from India, Malaysia, Sri Lanka and Thailand reported Mf-positive rates on domestic cats and dogs. Of these, only three studies provided data on the efficacy of anti-filarial drugs in reducing Mf prevalence in animal species; these are from Malaysia (one study) and Thailand (two studies). There was no conclusive evidence on the reduction of prevalence when compared between pre and post treatments. For instance, a small study in Thailand showed a significant reduction in Mf prevalence, when compared between pre and post treatments. Whether this was a true effect is uncertain as there was a huge variation with very wide 95% CI (OR: 10.0, 95%; CI: 1.1-93.4). Another small study in Thailand showed no significant reduction in Mf prevalence after anti-filarial treatment (OR: 1.35, 95%; CI: 0.5-3.6). A study in Malaysia reported that cats were probably infected with subperiodic B. malayi from humans and their Mf positivity status was a reflection of the endemicity of the area.

Discussion & Conclusions: The findings could not provide conclusive evidence of mass drug administration (MDA) in reducing Mf prevalence in animal population. MDA is not yet practiced for all animal reservoirs, but may be a strategy for domestic reservoirs such as cats and dogs. The approach for MDA in domestic cats and dogs could be with various combinations of albendazole, ivermectin and doxycycline as cats react aggressively to diethylcarbamazine (thus triggering possible community resistance to programme). Barriers in implementation of drugs to the domestic animals (e.g. cats) may be an issue of community's acceptance/decline. For programme success, inter-sectoral collaboration and community mobilizations in control of animal (domestic) reservoir though MDA approach is crucially important.

BIOGRAPHY

Cho Min Naing obtained her MBBS and MMedSc in Preventive and Tropical Medicine from the University of Medicine, Myanmar. Then she continued her studies and obtained MSc in Health economics from Chulalongkorn University, Thailand and PhD from University of Queensland, Australia. She was awarded with Fellowship of Royal College of Physician in 2008. By training and by practice, she is a Medical Malariologist. Her main field of interest is in malaria case management.

cho3699@gmail.com