Comparing Efficacy of Treatment of Eosinophilic Patients with Short Course (3 Days or 7 Days) with Long Term (14 Days) of Albendazole

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**Background:** The incidence of eosinophilia in Thai population is approximately 14%, but only 50% can identify etiology. Parasitic infestation is the most common cause, especially extra-luminal parasites. Albendazole has been found to be a safe broad spectrum anthelmintic, effective against various parasites including nematodes and cestodes. Mostly intestinal parasites need 3 days to treat, while extra-intestinal parasites need at least 14 days. Nowadays, there is no clear duration of anthelmintics for treating eosinophilic patients. In clinical practice, short course (3-7 days) albendazole is more commonly used, but long-term (14 days) albendazole is also applied.

**Objective:** 1) To compare eosinophil counts before and after treatment between short course and long term albendazole treatment in patients with eosinophilia, 2) To compare between these 2 groups and the untreated group, 3) To identify type and percentage of parasites in each group and determine the difference.

**Methods:** A prospective and retrospective cohort study was performed in patients with eosinophilic count more than 500/μL and without other identifiable causes of eosinophilia. We collected eosinophilic count before and after treatment with albendazole for short course, long term, and untreated groups, with stool exam results (if available in medical records) for detecting prevalence, type, and percentage of parasites to compare in each group. Primary outcome was the difference in improving of eosinophilic count between short course, long term, and untreated treatment with albendazole. Secondary outcome was the detection and comparison of stool parasites in each group.

**Results:** A total of 499 patients were included in this analysis (100 in the long term group, 199 in the short course group, and 200 in the untreated group). The decreasing of eosinophilia counts were 44.44%, 43.07%, and 3.01% in the long term, the short course, and the untreated groups, respectively. There were statistically significant differences between the long term and the untreated groups (p-value < 0.001), as well as the short course group compared to the untreated group (p-value < 0.001). Nonetheless, no statistically significant difference was noted between the long term and the short course groups (p-value = 0.821). In the long term and the short course groups, stool parasites were positive in 5.36% (3/56) and 10.68% (11/103), respectively. Strongyloides stercoralis (37.5%), Blastocystis hominis vacuolated form (18.75%), and Giardia lamblia cyst (12.5%) were the 1\textsuperscript{st}, 2\textsuperscript{nd}, and 3\textsuperscript{rd} most common parasites found among these 3 groups.

**Conclusion:** There is no significant change of decreasing eosinophil count in eosinophilic treated patients with the long term and the short course of albendazole. Additionally, both the long term and the short course of albendazole treatments are noted with statistically significant decrease eosinophil count when compared to the untreated group. Only 8.81% (14/158) are positive for stool parasites, but without significant difference between the long term and the short course groups.

**Keywords:** Eosinophilic, Treatment