

## **PB-04 THE EFFICACY OF 3 MG/KG TAFENOQUINE ON SEVERITY LEVELS AND BLOOD STAGE TREATMENT OF MALARIA IN AVIAN MODEL**

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**Introduction:** Since drug resistance to existing drugs by malaria parasite is commonly found, new drugs need to be introduced. This research aimed to study efficacy of tafenoquine on course of infection by malaria *Plasmodium gallinaceum* in avian model.

**Methods:** Ten infected female layers (one-day-old) with *P. gallinaceum* about 10% parasitemia were divided in two groups for treatment with 3 mg/kg body weight tafenoquine and control. The drug administration was conducted by daily intramuscular (IM) injection for five consecutive days. The monitoring of the parasite was evaluated from 10% Giemsa staining thin blood films. Parasitemia and severity levels were followed for two weeks after inoculation of the parasite. The severity was classified in three levels, i.e., severe, moderate, and mild.

**Results:** The parasitemia of treatment and control groups at the beginning of treatment with tafenoquine were 11.54±4.64 and 11.14±3.93 without significant difference. The peak of parasitemia between the two groups was found on day 2 posttreatment. The parasitemia of the treatment group was significantly lower than that of the control on day 3 posttreatment onward ( $p < 0.05$ ). After six days posttreatment, the parasitemia was lower than 1%. The severity levels of the treatment groups were significant lower than those of the control on day 3 post-treatment onward until the study end ( $p < 0.05$ ).

**Conclusion:** Tafenoquine acts as an antimalarial drug for blood stage *P. gallinaceum* and reduced disease severity in avian model. The most effective therapeutic dose and regimen need to be investigated.

**Keywords:** malaria, *Plasmodium gallinaceum*, tafenoquine, severity, *treatment*