Tafenoquine as Treatment for Relapsing Babesiosis

This study evaluates the effectiveness of tafenoquine (antimalarial primaquine analog) for treatment in an immunocompromised patient infected by a strain of *Babesia microti* that was partially resistant to both azithromycin and atovaquone treatment.

Tafenoquine received USDA approval in 2018 for use in only two indications: prophylaxis of malaria (for up to 6 months total) and prevention of relapse of *Plasmodium vivax* malaria. This drug has a relatively long half-life (14–17 days in humans), therefore a single dose can be administered once per week as an effective malaria prophylactic.

Tafenoquine has been found to be a highly effective treatment for *B. microti* infections in animal models. Three previous studies with hamsters/mice, including highly immunocompromised mice, demonstrated that tafenoquine effectively and rapidly cleared *B. microti* parasites from these hosts.

In this case study, an immunocompromised adult patient with multiple relapses of a *B. microti* infection was treated with a 6 week course of tafenoquine. This patient had previously failed treatment with both azithromycin and atovaquone, relapsing multiple times with babesiosis as documented through both clinical presentation (fevers, night sweats, chills, myalgias) and laboratory confirmation. Tafenoquine was well tolerated by the patient during treatment and over the course of follow-up, approximately 19 months. Additionally, the patient has remained well since treatment with tafenoquine.

Because of the success witnessed in both animal models and this human case study, investigators indicate that this drug has a potential role in the treatment of patients with babesiosis, especially in patients who are highly immunocompromised and/or resistant to other therapies. They recommend that systematic clinical studies using tafenoquine be considered in other patients with babesiosis.

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