

Relationship Between Pfmdr1 Gene Polymorphisms with Therapeutic Respons of Artesunate-Amodiaquine in Uncomplicated Falciparum Malaria Patients in Puskesmas Hanura, Pesawaran Regency, Lampung

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Abstract	<p>ABSTRACT Background: The failure of artesunate-amodiaquine therapy in chloroquine resistant patients have been reported in several areas in Indonesia. One of the unexpected resistance mechanisms is associated with pfmdr1 gene polymorphisms. This study determine the frequency of pfmdr-1 polymorphisms and examine the relationship of pfmdr1 gene polymorphism with therapeutic responses to artesunate-amodiaquine therapy in uncomplicated falciparum malaria patients in Puskesmas Hanura, Pesawaran Regency, Lampung. Methods: This study was conducted in accordance with the WHO protocol for anti-malarial drug efficacy test in uncomplicated falciparum malaria. Combination therapy used artesunate-amodiaquine and primaquine. Therapeutical response and Parasite Clearance Time was observed during 28 days of observation. Diagnosis polymorphism by PCR-RFLP technique used the patient's blood (EDTA and filter paper) were taken a tH0. Results: There were 63(85.1%) patients of Adequate Clinical and Parasitological Response, Early Treatment Failure were 5 (6.8%) people, Late Clinical And Parasitological Failure 2 (2.7 %) people, and Late Parasitological Failure 4 (5.4%) people. Seven (13.5%) patients were found with N86Y pfmdr1 gene polymorphism with mixed type (mutant type and wild-type) in which 1 (9.1%) people had failed therapy and 6 (14.6%) people were cured. There was no association between pfmdr1 gene polymorphism with artesunate-amodiaquine failed therapy (RR: 0.64, 95% CI 0.97-4.27, p: 1.000). Parasite Clearance Time on pfmdr1 polymorphism group was 2.14 \bar{x} \pm 1.21 days and 1.79 \bar{x} \pm 1.06 days in group without pfmdr1 polymorphisms. There was no significant difference between both groups (p =0.434). Conclusions: The frequency of pfmdr1 N86Y polymorphism in Puskesmas Hanura, Pesawaran Regency, Lampung was 13,5%. There was no significant difference between the rate of treatment failure patients with pfmdr1 N86Y polimorphism compared with patients without pfmdr1 N86Y polymorphism. There was no significant difference between Parasite Clearance Time patients with pfmdr1 N86Y polymorphism compared with patients without pfmdr1 N86Y polymorphism. Keywords: falciparum malaria, artesunat-amodiakuin, polymorphism, pfmdr1.</p>
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