Polimorfisme gen K13 plasmodium falciparum dan gen Fc riia inang serta hubungannya dengan densitas parasit dan efikasi dihidroartemisinin piperakuin = Polymorphism of plasmodium falciparum k13 gene and human fc riia and its association with parasite density and efficacy of dihydroartemisinin piperaquine / Sylvia Sance Marantina

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Abstrak

ABSTRAK
Sebanyak 120 sampel Dried Blood Spot (DBS) malaria falciparum yang diperoleh dari studi efikasi obat DHP pada 5 wilayah di Indonesia dianalisis dengan Polymerase Chain Reaction (PCR) dan sekuensing, untuk melihat varian SNPs K13 dan alel FcγRIIa -131 serta hubungannya dengan densitas parasit dan efikasi Dihidroartemisinin-Piperakuin. Hasil penelitian tidak menemukan mutasi gen K13 pada seluruh isolat P. falciparum yang diperiksa. Artemisinin masih efektif untuk pengobatan malaria di Indonesia. Analisis gen FcγRIIa menunjukkan bahwa genotip RH memiliki frekuensi yang paling tinggi (50,8%) dibandingkan RR (17,5%) dan HH (31,7%). Alel R131 gen FcγRIIa menunjukkan efek protektif terhadap High Density Parasitemia (HDP) (>5000 parasit/μL; odds ratio [OR]= 0.133, 95% confidence interval [CI]= 0.053?0.334, P< 0.001) dan berkaitan dengan keberadaan gametosit yang lebih lama pada inang (> 72 jam.
<hr>ABSTRACT
Relative Risk [RR]= 1,571, 95% confidence interval [CI]= 1,005?2,456, P= 0.090).;A total of 120 samples of Dried Blood Spot (DBS) falciparum malaria acquired from DHP drug efficacy studies in 5 regions in Indonesia were analyzed by Polymerase Chain Reaction (PCR) and sequencing, to look at variants of K13 SNPs and FcγRIIa-131 allele and its Association with Parasite Density and Efficacy of Dihydroartemisinin- Piperaquine. No mutations in the K13 gene was found in any of the isolates examined. Artemisinin is still effective for the treatment of malaria in Indonesia. The FcγRIIa gene analysis indicated that genotype RH has the highest frequency (50.8%) compared to RR (17.5%) and HH (31.7%). Allele R131 showed a protective effect against High Density Parasitemia (HDP) (>5000 parasites/μL; odds ratio [OR]= 0.133, 95% confidence interval [CI]= 0.053?0.334, P< 0.001) and associated with longer gametocytes carrier clearance time (> 72 hours; Relative Risk [RR]= 1,571, 95% confidence interval [CI]= 1,005?2,456, P= 0.090).