

The SLCO1B1*15 haplotype associated with lower clinical outcome in Indonesian tuberculosis patients

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Abstract	<p>Rifampin is one of first-line drugs for the treatment of tuberculosis. In Indonesia nearly all tuberculosis patients show lower rifampin plasma concentrations possibly due to genetics. Rifampin is a substrate of the organic anion-transporting polypeptide 1B1 (OATP 1B1) encoded by the solute carrier organic anion transporter family member 1B1 (SLCO1B1). This study aimed to identify haplotype polymorphisms of tuberculosis drug transporters with an impact on clinical outcome in tuberculosis patients. Thirty-six patients from AbdulWahab Sjahranie General Hospital, Samarinda, East Kalimantan were involved in the study. Buffy coat from patient blood samples were tested for SLCO1B1 and SLCO1B3 polymorphisms by RFLP and ARMS PCR, whereas the clinical outcome was examined based on the sputum conversion. The frequency of patients with SLCO1B1*15 haplotype was 63.9%. The SLCO1B1*15 haplotype was associated with susceptibility to failure of clinical outcome ($p=0.005$; $RR=4.52$; 95% CI: 1.22-16.64). The OATP1B1*15 haplotype revealed that the failure of clinical outcome was markedly increased compared to the three other haplotypes. These results suggest that the SLCO1B1*15 haplotype is an important predisposing factor for lower clinical outcome. Our data indicate that individualized treatment should be considered for Indonesian tuberculosis patients based on genetics characteristics of patients.</p>
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