# Hubungan antara pola metilasi DNA gen reseptor klopidogrel P2y12 dan penghambatan fungsi platelet dengan timi flow pada pasien infark miokard akut disertai elevasi segmen ST yang menjalani intervensi koroner perkutan primer = The Association between DNA Methylation of P2Y12 gene with platelet reactivity and TIMI-flow after primary percutaneous coronary intervention in patients with acute ST-segment

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Abstrak

ABSTRAK<br>
Latar belakang: Salah satu faktor yang dicurigai berperan dalam mekanisme resisensi klopidogrel adalah faktor epigenetik seperti metilasi DNA. Individu dengan resistensi klopidogrel ini memiliki kecenderungan untuk mengalami luaran kardiovaskular yang lebih buruk. Nilai TIMI flow pasca IKPP telah diketahui berkaitan dengan luaran klinis pada pasien IMA-EST. Sampai saat ini belum ada penelitian yang menghubungan antara metilasi gen P2Y12 dengan penghambatan fungsi platelet dan nilai TIMI flow pasca IKPP pada pasien IMA EST. Tujuan: Untuk mengetahui hubungan antara metilasi gen reseptor P2Y12 terhadap fungsi penghambatan platelet dan nilai TIMI flow pasca IKPP pada pasien IMA EST. Metode: Sebanyak 118 pasien IMA-EST yang menjalani IKPP dan mendapatkan terapi klopidogrel dimasukkan kedalam populasi penelitian. Dilakukan pemeriksaan VerifyNow P2Y12 dan pemeriksaan metilasi P2Y12. Selanjutnya dilakukan analisis hubungan antara metilasi P2Y12 dengan nilai Verifynow P2Y12 dan TIMI flow pasca IKPP. Hasil: Dari seluruh subyek, 22% diantaranya termasuk klopidogrel nonresponder dan 30% memiliki nilai TIMI flow kurang dari 3. Terdapat 48% subyek yang tidak mengalami metilasi dan 19% subyek mengalami metilasi sempurna pada gen P2Y12. Tidak terdapat hubungan bermakna antara metilasi P2Y12 dengan nilai Verifynow P2Y12 dan TIMI flow pasca IKPP. Nilai Verifynow P2Y12 yang tinggi berhubungan dengan TIMI flow kurang dari 3 pasca IKPP (p=0,043). Kesimpulan: Tidak terdapat hubungan bermakna antara pola metilasi gen P2Y12 dengan penghambatan fungsi platelet dan nilai TIMI flow pasca IKPP. Pasien yangnon-responder terhadap klopidogrel berisiko untuk mendapatkan reperfusi miokard yang suboptimal.
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ABSTRACT<br>
Background: Mechanism of clopidogrel resistance is not well understood yet. In the other hand, epigenetic modifications such as DNA methylation, are suspected to play role in clopidogrel resistence. Subject with high on treatment clopidogrel reactivity show worsen cardiovascular outcome. Meanwhile, TIMI flow after reperfusion are known to be related with poor outcome. Study that evaluate the relationship between methylation of P2Y12 gene with Platelet Reactivity and TIMI-flow after Primary Percutaneous Coronary Intervention (PPCI) in Patients With Acute ST-segment Elevation Myocardial Infarction in South East Asia Population has never been done. Objectives: to define whether methylation of P2Y12 gene and platelet reactivity may affect the myocardial perfusion after PPCI. Methods: There were 118 of STEMI patients who underwent PPCI and had received clopidogrel were recruited for the study. We measured platelet reactivity using Verifynow P2Y12 and Methylation of P2Y12 gene. The relationship among variables are assessed

using statistic method. Results: Among 118 subject, 22% are clopidogrel nonresponder and 30% had TIMI flow less than 3. Median of Methylation degree was 15% with 48% subject were unmethylated, 19% subject had 100% methylation. There are no relationship between methylation of P2Y12 gene with platelet reactivity and TIMI flow after PPCI among subjects. The value of Verifynow P2Y12 more than 208 were related TIMI flow less than 3 after PPCI (p=0,043). Conclusion: There are no relationship between methylation of P2Y12 gene with platelet reactivity and TIMI flow after PPCI among subjects. Clopidogel nonresponder subjects were more likely to have suboptimal reperfusion after PPCI