

# Hubungan reaktivitas platelet pada terapi Clopidogrel dengan obstruksi mikrovaskular pasca intervensi Koroner perkutan pada pasien APTS/IMA-NEST = Association of Platelet reactivity on Clopidogrel treatment with Microvascular obstruction after PCI in UA/NSTEMI patients / Mefri Yanni

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## Abstrak

### <b>ABSTRAK</b><br>

Latar Belakang. Pada penderita APTS/IMA-NEST, agregasi platelet dianggap sebagai faktor penyebab kejadian trombosis dan disfungsi mikrosirkulasi melalui mekanisme embolisasi distal. Pemeriksaan fungsi platelet berperan dalam menilai derajat inhibisi platelet oleh pemberian antiplatelet khususnya clopidogrel.

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Tujuan. Menilai hubungan antara reaktivitas platelet dalam terapi clopidogrel dengan kejadian obstruksi mikrovaskular pada penderita APTS/IMA-NEST.

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Metode. Penelitian potong lintang dilakukan untuk menilai hubungan reaktivitas platelet pada terapi clopidogrel dengan kejadian obstruksi mikrovaskular pada penderita APTS/IMA-NEST yang menjalani tindakan intervensi perkutan.

Pengukuran nilai reaktivitas platelet dilakukan sebelum tindakan IKP minimal 6 jam pasca loading dose clopidogrel 300 mg. Penilaian obstruksi mikrovaskular diukur dengan myocardial blush grade (MBG) setelah intervensi koroner perkutan.

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Hasil. Total sebanyak 96 orang pasien yang memenuhi kriteria inklusi penelitian selama periode Mei-Oktober 2012. Sebanyak 21 subjek (21.9%) dikategorikan sebagai non responder dengan nilai reaktivitas platelet  $\geq 47$  U, sementara sebanyak 75 subjek (78.1%) dikategorikan sebagai responder ( $< 47$ U). Rerata nilai reaktivitas platelet pada kelompok non responder  $63.8 \pm 18.4$  U berbanding  $28.3 \pm 10.34$  U pada kelompok responder ( $p=0.000$ ). Berdasarkan nilai myocardial blush grade, kelompok subjek dengan nilai MBG 0-1 ditemukan sebanyak 12 subjek (12.5%) sementara kelompok subjek dengan nilai MBG 2-3 sebanyak 84 subjek (87.5%) dengan rerata nilai reaktivitas platelet  $47 \pm 26.3$  U berbanding  $35.5 \pm 19.6$  U ( $p=0.00$ ). Terdapat perbedaan antara kedua kelompok terhadap skor GRACE  $\geq 140$  (75% vs 89,3%,  $p=0.17$ ), tipe lesi ACC/AHA (58,4% vs 33,4%,  $p=0.11$ ), aliran TIMI (50% vs 2,3%,  $p=0.000$ ), dan jumlah non responder (58,3% vs 16,6%,  $p=0.004$ ). Melalui analisis multivariat, nilai reaktivitas platelet pada terapi clopidogrel memiliki hubungan dengan kejadian obstruksi mikrovaskular dengan odds ratio (OR) 6.8 (IK 95%:1,8-25.4,  $p=0.004$ ).

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Kesimpulan. Terdapat hubungan antara nilai reaktivitas platelet pada terapi clopidogrel dengan kejadian obstruksi mikrovaskular pada penderita IMA-NEST yang menjalani tindakan IKP dalam masa perawatan di rumah sakit.

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<b>ABSTRACT</b><br>

Background. In the setting of UA/NSTEMI, platelet aggregation has a pivotal role in thrombosis and microcirculation dysfunction resulting from distal embolization, and the rate of microcirculation dysfunction will increase by iatrogenic plaque rupture during PCI. Platelet function tests has been widely used to measure platelet inhibition level on antiplatelet therapy, particularly on clopidogrel.

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Objective. This study aimed to evaluate the association between platelet reactivity on clopidogrel treatment with microvascular obstruction after PCI in UA/NSTEMI patients.

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Method. A cross sectional study was conducted to evaluate the association between platelet reactivity on clopidogrel treatment and microvascular obstruction after PCI in UA/NSTEMI patients. Platelet reactivity was measured before PCI minimal 6 hours after loading dose 300 mg clopidogrel, while microvascular obstruction was evaluated by myocardial blush grade (MBG).

Results. Out of 96 subjects examined during May to October 2012, 21 subjects (21.9%) was categorised as non responder (&#8805;47 U) and 75 subjects (78.1%) as responder (<47 U). Mean platelet reactivity in non responder group was 63.8±18.4 U versus 28.3±10.34 U in responder group (p=0.000). Based on myocardial blush, MBG 0-1 was found in 12 subjects (12.5%) while MBG 2-3 was found in 84 subjects (87.5%). There were difference in both groups on GRACE risk score &#8805; 140 (75% vs 89,3%,p=0.17), ACC/AHA type lesion (58,4% vs33.4%, p=0.11), TIMI flow (50% vs 2.3%, p=0.000), and number of responder subjects (58.3% vs 16.6%, p=0.004) with mean platelet reactivity 47±26.3 U vs 35.5±19.6 U, respectively (p=0.00). Multivariate analysis showed that platelet reactivity on clopidogrel treatment is persistently associated with microvascular obstruction (OR 6.8, CI: 1,8-25.4, p=0.004).

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Conclusion. In this study, platelet reactivity on clopidogrel treatment is associated with microvascular obstruction after stenting in UA/NSTEMI patients.