# Hubungan polimorfisme gain of function E670G pada proprotein convertase subtilisin Kexin type-9 dengan luaran kardioserebrovaskular mayor pada pasien infark miokard akut disertai elevasi segmen ST yang menjalani intervensi koroner perkutan primer = Association between polymorphism gain of function E670G proprotein convertase subtilisin Kexin type-9 level And major cardiocerebrovascular outcome in acute ST-segment elevation myocardial infarction undergoing primary percutaneous coronary intervention

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Abstrak

Latar belakang: PCSK9 telah diketahui sebagai molekul yang berperan dalam regulasi kadar kolesterol LDL darah. Dua dekade ini, PCSK9 diketahui memiliki mekanisme kerja lain yang melibatkan proses inflamasi, peningkatan Lp(a), aktivasi jaras protrombotik dan platelet, metabolisme triglyceride-rich lipoprotein, serta modifikasi plak yang juga dapat berperan dalam patogenesis berbagai spektrum penyakit aterosklerotik, termasuk IMA-EST. Kemajuan dalam strategi penatalaksanaan IMA-EST telah berhasil meningkatkan kesintasan, akan tetapi sekelompok pasien masih mengalami luaran klinis buruk meski telah mendapatkan tatalaksana optimal. Adanya polimorfisme gain of function E670G PCSK9 dipikirkan dapat memiliki peranan dalam risiko residual pasien-pasien tersebut Tujuan: Penelitian ini bertujuan untuk mempelajari hubungan antara polimorfisme PCSK9 pada pasien IMA-EST yang menjalani IKPP dengan luaran kardioserebrovaskular mayor. Metode: Sebanyak 423 pasien dengan IMA-EST yang menjalani IKPP diperiksakan polimorfisme PCSK9 pada saat admisi. Pemeriksaan polimorfisme PCSK9 didapatkan dengan menggunakan Real Time PCR. Data luaran kardioserebrovaskular mayor dan data penunjang lain didapatkan dari rekam medik dan follow-up telepon. Hasil: Terdapat 2,1 % polimorfisme berupa alel mutan (AG). Terdapat 65 (15,4%) subjek penelitian yang mengalami luaran kardioserebrovaskular mayor dalam 180 hari. Didapatkan analisis kesintasan menunjukkan adanya hubungan yang bermakna secara statistik antara polimorfisme E670G PCSK9 dengan luaran kardioserebrovaskular mayor dalam 180 hari (HR 7,486; IK95% 3.57-15.697; P=0,0000). Kesimpulan:  Pada pasien IMA-EST yang menjalani IKPP, terdapat hubungan yang bermakna antara polimorfisme E670G PCSK9 dengan luaran kardioserebrovaskular mayor dalam 180 hari.

.....Background: PCSK9 is a molecule that regulates blood LDL cholesterol level. Recent evidences suggest that PCSK9 may also have other mechanisms, such as inflammation, increased Lp(a), triglyceride-rich lipoprotein metabolism, activation of prothrombotic pathways and platelets, and modification of atherosclerotic plaque, which all may play a role in the pathogenesis of atherosclerotic diseases, including STEMI. Previous advances in the management of STEMI had succeed in increasing survival. However, some STEMI patients still experienced adverse outcomes eventhough they already received optimal management in accordance with the guidelines. Polimorphysm gain of function PCSK9 may have a role in the residual risk that those patients have. However, our knowledge regarding this association between polymorphism gain of function E670G PCSK9 and MACCE in STEMI is still unknown. Objective: The aim of this study is to evaluate the association between polymorphism Gain of Function E670G PCSK9 with

MACCE in STEMI patients who underwent primary PCI. Methods: In total, 423 patients with STEMI who were treated with primary PCI had their plasma sample drawn during admission and evaluated for Polymorphism PCSK9. PCSK9 Polymophism was measured with PCR RT.  MACCE and other supportive data were taken from the medical records and telephone follow-up. Results: The prevalence of Poymorphisme E670G PCSK9 in STEMI patient who underwent PPCI is 2,1 %. There were 65 (15,4%) study participants who experienced MACCE in 180 days. Survival analysis shows a significant association between Polymorphsm Gain of Function E670G PCSK9 and MACCE in 180 days. (HR 7,486; IK95% 3.57-15.697; P=0,0000). Conclusion: There was significant association between Polymorphsm gain of function E670G PCSK9 and 180 days MACCE in STEMI patients treated with primary PCI.