

Hubungan antara konsentrasi kalsidiol dan polimorfisme gen CYP27B1 (-rs10877012) dengan aliran TIMI akhir pada pasien dengan infark miokard akut disertai elevasi segmen ST = Association of calcidiol concentration and CYP27B1 (-rs10877012) gene polymorphisms with final TIMI flow in patients with acute ST segment elevation myocardial infarction

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Abstrak

STEMI adalah IMA dengan risiko mortalitas tinggi. Risiko dikurangi dengan revaskularisasi berupa IKPP. Gangguan kardiovaskular dikaitkan dengan penurunan konsentrasi vitamin D. Penurunan bisa disebabkan SNP gen CYP27B1 yang mengkode enzim 1 hidroksilase dan belum ada penelitian yang menghubungkan konsentrasi vitamin D pada pasien STEMI yang menjalani IKPP. Hasil IKPP berupa area sumbatan dan kemampuan darah mengalir ke pembuluh darah koroner, dikenal dengan TIMI grade 0-3. Penelitian bertujuan untuk menganalisis hubungan konsentrasi kalsidiol dan gen CYP27B1 (-rs10877012) perubahan G ke T pada pasien STEMI yang menjalani IKPP dengan aliran TIMI akhir. Seratus subjek STEMI dan kontrol diambil 3 mL darah. Plasmanya diukur konsentrasi kalsidiol dengan teknik ELISA. PBMC dianalisis gen CYP27B1 (-rs10877012) dengan qRT PCR teknik Taqman Probe. Data dianalisis statistik kemaknaan 0,05. Konsentrasi kalsidiol median kasus 35,94 ng/ml dan kontrol 20,89 ng/ml berbeda bermakna ($p=0,0001$). Variasi gen CYP27B1 pada kedua kelompok berbeda bermakna ($p=0,0001$), dengan polimorfisme TT kasus 28% dan kontrol 19%. Hubungan konsentrasi kalsidiol dengan polimorfisme gen CYP27B1 berbeda bermakna ($p=0,0001$), tidak terdapat hubungan konsentrasi kalsidiol dengan aliran TIMI dan polimorfisme gen CYP27B1 dengan $p=0,232$. Konsentrasi kalsidiol tinggi pada kasus dimungkinkan sebagai respon tubuh terhadap inflamasi yang mengalami serangan jantung. Polimorfisme TT kasus 28% tidak memiliki hubungan terhadap patofisiologi aliran TIMI akhir.

.....STEMI is an AMI with a high risk of mortality. The risk is reduced by revascularization called by IKPP. Cardiovascular disorders are associated with decreased vitamin D concentrations. The decrease could be due to the SNP gene CYP27B1 which encodes the enzyme 1 hydroxylase and no studies have linked vitamin D concentrations in STEMI patients undergoing IKPP. IKPP results in the form of block area and the ability of blood to flow to the coronary blood vessels, known as TIMI grade 0-3. The aim of this study was to analyze the relationship between calcidiol concentrations and the CYP27B1 gene (-rs10877012) G to T changes in STEMI undergoing IKPP with TIMI flow. One hundred STEMI and control subjects collected 3 mL of blood. Plasma concentration of calcidiol was measured using the ELISA technique. PBMCs were analyzed CYP27B1 gene (-rs10877012) by taqman probe qRT PCR. Data were analyzed by statistical significance of 0.05. Median calcidiol concentration of 35.94 ng / ml cases and 20.89 ng / ml controls was significantly different ($p = 0.0001$). CYP27B1 gene variation in the two groups was significantly different ($p = 0.0001$), with TT polymorphism of 28% and 19% of controls. The correlation between calcidiol concentration and CYP27B1 gene polymorphism was significantly different ($p = 0.0001$), there was no correlation between calcidiol concentration and TIMI flow and CYP27B1 gene polymorphism with $p = 0.232$. The high calcidiol concentration in this case may be the body's response to inflammation following a heart attack. The TT

polymorphism of 28% cases had no relationship to the pathophysiology of late TIMI flow.