

# Hubungan hitung jumlah leukosit jaringan vena saphena magna dengan time refluks duplex ultrasound sebagai penanda insufisiensi vena kronik pada pasien bedah pintas arteri koroner = Correlation between vein tissue leukocyte count and great saphenous vein reflux time in coronary artery bypass graft patients

Danayu Sanni Prahasti, author

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## Abstrak

[<b>ABSTRAK</b><br>

Latar belakang. Abnormalitas fungsi vena terkait inflamasi dan hipertensi vena merupakan dasar patofisiologi insufisiensi vena kronik. Pembuktian hubungan faktor inflamasi lokal pada jaringan vena dengan fungsional vena menjadi penting ketika vena yang diteliti akan menjadi conduit vena pada Bedah Pintas Arteri Koroner (BPAK) dan evaluasi patensinya berpengaruh pada mortalitas dan morbiditas pasien Penyakit Jantung Koroner (PJK).

Metode. Penelitian ini merupakan studi potong lintang dari 35 sampel jaringan vena saphena magna pasien PJK yang diambil untuk conduit vena pada BPAK dan telah diperiksa IVK menggunakan Duplex Ultrasound (DUS) dengan parameter time refluks, periode bulan September sampai November 2014 di Pusat Jantung Nasional Harapan Kita. Untuk analisa hitung jumlah leukosit dilakukan pewarnaan Hematoxyllin eosin pada jaringan vena oleh ahli patologi anatomi. Analisis statistik dilakukan untuk mencari hubungan antara hitung jumlah leukosit jaringan vena dengan time refluks vena saphena magna.

Hasil. Analisa statistik dengan Chi square didapatkan perbedaan bermakna peningkatan jumlah leukosit jaringan vena pada pasien insufisiensi vena kronik dibandingkan normal (52,63 % vs 18,755) dengan nilai P 0,039. Analisa lebih lanjut dengan rasio odd, dimana pasien dengan peningkatan jumlah leukosit jaringan vena memiliki 4 kali lipat kemungkinan menderita insufisiensi vena kronik (Crude OR 4,81; CI 95% 1.02 - 22.57; P value 0.046), dan setelah dianalisa menggunakan variabel perancu usia, jenis kelamin, Diabetes mellitus, Hipertensi, Perokok, Dislipidemia, adjusted OR bertambah menjadi 6 kali lipat (Adjusted OR 6,66; CI 95% 1.16 - 38.31; P value 0.033)

Kesimpulan. Terdapat hubungan antara nilai inflamasi lokal dengan parameter hitung jumlah leukosit jaringan vena dengan fungsi vena pada pasien insufisiensi vena kronik dengan parameter time refluks yang diperiksa dengan DUS.

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<b>ABSTRACT</b><br>

Background: Venous function abnormality associated with inflammation and venous hypertension is the main pathophysiology of Chronic Venous Insufficiency (CVI). Proving the relationship between local inflammation factors in venous tissue and its function became an important point because the veins studied are used as a conduit for Coronary Artery Bypass Graft (CABG) procedure, and its patency evaluation will affect the mortality and morbidity rate in Coronary Artery Disease (CAD).

Methods: This is a cross-sectional study, evaluating 35 Great Saphenous Veins (GSV) tissues taken as conduit for CABG procedure from CAD patients that have been previously examined using Duplex Ultrasound (DUS) for GSV reflux time from September-November 2014 at National Cardiac Centre

Harapan Kita. Vein tissue samples were stained with Hematoxylin-Eosin and the vein tissue leucocyte count were evaluated by an independent anatomical pathologist. Reflux time and vein tissue leukocyte count results were then grouped into 2 categories each and analysed with chi-square test to assess the relationship between the two variables

Result: There was significant difference of elevated leukocyte count evaluated in patients with CVI according to DUS reflux time (52,63%) compared to normal ones (18.75%) ( $p=0.039$ ). The risk for patients with elevated total leukocyte count to develop CVI was 4 times greater than those who have normal count (crude OR 4.81; 95% CI 1.02 to 22.57;  $p=0.046$ ) and after adjusted for confounding factors, such as age, sex, and history of diabetes, hypertension, smoking, and dyslipidaemia, the risk was increased into 6 times (adjusted OR 6.66; 95% CI 1.16 to 38.31;  $p=0.033$ ).

Conclusion: There is significant relationship between local inflammatory factors, evaluated using total leukocyte count, with venous functions, evaluated using DUS reflux time, in CVI patients.;Background: Venous function abnormality associated with inflammation and venous hypertension is the main pathophysiology of Chronic Venous Insufficiency (CVI). Proving the relationship between local inflammation factors in venous tissue and its function became an important point because the veins studied are used as a conduit for Coronary Artery Bypass Graft (CABG) procedure, and its patency evaluation will affect the mortality and morbidity rate in Coronary Artery Disease (CAD).

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