

**UJI DIAGNOSTIK  
CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY  
DENGAN BAKU EMAS *INVASIVE CORONARY ANGIOGRAPHY*  
PADA STENOSIS ARTERI KORONER**

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**INTISARI**

**Latar Belakang:** Penyakit jantung koroner merupakan salah satu penyebab utama morbiditas dan mortalitas di seluruh dunia dengan aterosklerosis merupakan penyebab tersering penyempitan pembuluh darah koroner. ICA merupakan pemeriksaan baku emas untuk diagnosis dan evaluasi stenosis arteri koroner, namun ICA bersifat lebih invasif. Akhir-akhir ini CCTA direkomendasikan sebagai pemeriksaan lini pertama pasien PJK dengan sensitivitas dan spesifisitas tinggi untuk diagnosis stenosis arteri koroner signifikan ( $\geq 50\%$ ).

**Tujuan:** Untuk mengetahui nilai uji diagnostik CCTA dibandingkan baku emas ICA pada stenosis arteri koroner.

**Metode:** Penelitian observasional analitik, retrospektif, uji diagnostik dengan menggunakan data sekunder citra CCTA dan ICA. Uji diagnostik sensitivitas dan spesifisitas CCTA per *vessel* dan masing masing arteri koroner LM, LAD dan RCA dalam mendeteksi stenosis signifikan ( $\geq 50\%$ ) dengan membandingkan baku emas ICA.

**Hasil:** Hasil uji diagnostik CCTA per *vessel* sensitivitas dalam mendeteksi stenosis signifikan ( $\geq 50\%$ ) adalah 85%, spesifisitas 86%, nilai prediksi positif (NPP) 81%, nilai prediksi negatif (NPN) 89%, dan akurasi sebesar 85%. Pada LM dengan sensitivitas 50%, spesifisitas 97%, NPP 50%, NPN 97%, dan akurasi sebesar 95%. Pada LAD didapatkan sensitivitas 92%, spesifisitas 69%, NPP 86%, NPN 82%, dan akurasi sebesar 85%, sedangkan pada LCX didapatkan sensitivitas 100%, spesifisitas 83%, NPP 79%, NPN 100%, dan akurasi sebesar 90% serta pada RCA sensitivitas 70%, nilai spesifisitas 75%, NPP 80%, NPN 63% dengan akurasi sebesar 72%

**Kesimpulan:** CCTA memiliki sensitivitas, spesifisitas, nilai prediksi positif, nilai prediksi negatif, dan akurasi yang tinggi dalam mendiagnosis stenosis arteri koroner dengan hasil mendekati baku emas ICA. Sensitivitas CCTA yang tinggi dapat secara akurat mendeteksi stenosis signifikan ( $\geq 50\%$ ) sedangkan spesifisitas tinggi dapat menyingkirkan stenosis signifikan ( $\geq 50\%$ ).

Kata kunci : CCTA, ICA, stenosis, uji diagnostik, sensitivitas, spesifisitas, PJK

**DIAGNOSTIC PERFORMANCE OF  
CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY  
FOR DETECTING CORONARY ARTERY STENOSIS  
COMPARISON WITH INVASIVE CORONARY ANGIOGRAPHY**

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**ABSTRACT**

**Background:** Coronary artery disease is the leading cause of morbidity and mortality worldwide. Atherosclerosis is the most common cause of coronary arteries narrowing. ICA is the gold standard examination for diagnostic and evaluation of coronary artery stenosis, but ICA is more invasive. Recently, CCTA is recommended as the first-line examination of CAD patients with high sensitivity and specificity for the diagnosis of significant coronary artery stenosis ( $\geq 50\%$ ).

**Objective:** This study aimed to determine diagnostic value of CCTA in evaluation of coronary stenosis with ICA as gold standard.

**Material and Method:** This is a retrospective observational analytic, diagnostic study uses secondary data from CCTA and ICA images. Diagnostic test of CCTA per vessel and left main (LM), left anterior descending artery (LAD) and right coronary artery (RCA) in detecting significant stenosis ( $\geq 50\%$ ) by comparing the gold standard ICA.

**Results:** Diagnostic test CCTA vessel-based analysis in significant stenosis ( $\geq 50\%$ ) with a sensitivity of 85%, a specificity 86%, a positive predictive value (NPP) 81%, a negative predictive value (NPN) 89%, and accuracy of 85%. LM with a sensitivity of 50%, specificity of 97%, NPP of 50%, NPN of 97%, and accuracy of 95%. In LAD with a sensitivity of 92%, specificity of 69%, NPP of 86%, NPN of 82%, and accuracy of 85%, while the LCX obtained a sensitivity of 100%, specificity of 83%, NPP of 79%, NPN of 100%, and accuracy of 90% as well as RCA with a sensitivity of 70%, specificity of value 75%, NPP of 80%, NPN of 63% and accuracy of 72%.

**Conclusion:** CCTA has high sensitivity, specificity, positive predictive value, negative predictive value, and accuracy in diagnosing coronary artery stenoses with results close to ICA as gold standard. High sensitivity can accurately diagnose significant stenosis ( $\geq 50\%$ ) whereas high specificity can exclude significant stenosis ( $\geq 50\%$ )

**Keyword:** CCTA, ICA, stenosis, diagnostic test, sensitivity, spesificity, CAD