

# Korelasi Antara Nilai Controlled Attenuation Parameter (CAP) Steatosis Hati dengan Skor SYNTAX Lesi Koroner Pada Pasien Penyakit Jantung Koroner (PJK) Signifikan = Correlation Between Controlled Attenuation Parameter (CAP) Value and SYNTAX Score in Patient with Significant Coronary Artery Disease (CAD)

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## Abstrak

Latar Belakang: Penyakit kardiovaskular terutama penyakit jantung koroner (PJK) merupakan penyebab utama kematian pasien dengan penyakit perlemakan hati non-alkoholik (PPHNA). Pengukuran controlled attenuation parameter (CAP) menilai derajat steatosis hati secara non-invasif dan terukur, sementara skor SYNTAX dapat menggambarkan derajat aterosklerosis koroner dan membantu pemilihan modalitas revaskularisasi koroner (PCI atau CABG). Hingga saat ini, belum diketahui korelasi antara nilai CAP dengan skor SYNTAX pada pasien PJK signifikan. Tujuan: Mengetahui korelasi antara nilai CAP steatosis hati dengan skor SYNTAX lesi koroner pada pasien PJK signifikan. Metode: Studi potong lintang dengan populasi terjangkau adalah pasien dewasa yang menjalani tindakan angiografi koroner di ruang cathlab Rumah Sakit Cipto Mangunkusumo pada bulan Juli hingga Oktober 2023 dan terbukti menderita PJK signifikan. Selanjutnya dilakukan anamnesis, pemeriksaan fisik, pemeriksaan darah, penilaian CAP dengan elastografi transien, dan penghitungan skor SYNTAX. Analisis data dilakukan untuk mencari koefisien korelasi antara nilai CAP dengan skor SYNTAX. Hasil: Didapatkan 124 subjek penelitian dengan dengan rasio laki-laki berbanding perempuan 5:1 dan rerata usia  $59,8 \pm 11,1$  tahun. Rerata IMT  $25,6 \pm 3,5$  kg/m<sup>2</sup>, dengan 54,8% subjek tergolong obesitas. Sebanyak 94,4% dan 55,6% subjek menderita hipertensi dan DM, dengan tekanan darah dan parameter glikemik relatif terkontrol. Rerata HDL  $38,8 \pm 10,8$  mg/dL dengan 55,6% subjek memiliki HDL rendah, dan median LDL 109,5 mg/dL dengan 89,5% subjek belum mencapai target LDL. Rerata nilai CAP  $256,5 \pm 47,3$  dB/m, dengan 52,5% subjek (IK 95%: 43,3% - 61,5%) menderita steatosis signifikan (nilai CAP 248 dB/m), Median skor SYNTAX 22. Uji korelasi Spearman menunjukkan korelasi positif dan signifikan antara nilai CAP dengan skor SYNTAX ( $r = 0,245$ ,  $p < 0,0001$ ). Kesimpulan: Diantara pasien dengan PJK signifikan, 52,5% diantaranya memiliki steatosis hati non-alkoholik signifikan. Terdapat korelasi positif dan bermakna antara nilai CAP dengan skor SYNTAX pada pasien PJK signifika. ....Background: Cardiovascular diseases, particularly coronary artery disease (CAD), is the leading cause of death in patients with non-alcoholic fatty liver disease (NAFLD). The controlled attenuation parameter (CAP) measurement assesses the degree of liver steatosis in a non-invasive and measurable manner, while the SYNTAX score depicts the degree of coronary atherosclerosis and aids in the selection of coronary revascularization modalities (PCI or CABG). To date, the correlation between CAP values and SYNTAX scores in patients with significant CAD remains unknown. Objective: To determine the correlation between controlled attenuation parameter (CAP) value of liver steatosis and SYNTAX score of coronary lesions in patients with significant CAD. Methods: This cross-sectional study was conducted on an accessible population of adult patients who underwent coronary angiography at Cipto Mangunkusumo Hospital catheterization laboratory from July to October 2023, and were proven to have significant CAD. Anamnesis, physical examination, blood tests, CAP assessment with transient elastography, and SYNTAX score

calculation were performed. Data analysis was conducted to find the correlation coefficient between CAP values and SYNTAX scores. Results: A total of 124 patients were included in this study, with a mean age of  $59.8 \pm 11.1$  years and 5:1 of male to female ratio. The mean BMI was  $25.6 \pm 3.5$  kg/m<sup>2</sup>, with 54.8% subjects classified as obese. A total of 94.4% and 55.6% subjects were hypertensive and diabetic with relatively controlled blood pressure and glyceemic parameters. The mean HDL was  $38.8 \pm 10.8$  mg/dL with 55.6% of the subjects having low HDL, and a median LDL of 109.5 mg/dL, with 89.5% of the subjects yet to achieve the optimal LDL target. The mean CAP value was  $256.5 \pm 47.3$  dB/m, with 52.5% of the subjects having significant steatosis (CAP value 248 dB/m). The median SYNTAX score was 22. The Spearman correlation test showed a positive and significant correlation between CAP values and SYNTAX score ( $r = 0.245$ ,  $p < 0.0001$ ). Conclusion: Among patients with significant CAD, 52.5% have significant non-alcoholic hepatic steatosis. There is a positive and significant correlation between CAP values and SYNTAX scores in patients with significant CAD.