INTISARI

HIGH SENSITIVITY CARDIAC TROPONIN I SEBAGAI PREDIKTOR TERHADAP KEJADIAN KARDIOVASKULAR MAYOR PADA PASIEN DENGAN GAGAL JANTUNG AKUT TANPA SINDROM KORONER AKUT

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Latar Belakang: Rawat inap tahunan karena gagal jantung akut melebihi 1 juta di setiap wilayah dan sebagian besar biaya perawatan terkait gagal jantung akut cukup besar. Sebanyak 80% pasien yang dirawat di rumah sakit karena gagal jantung memiliki riwayat gagal jantung sebelumnya, dan lebih dari 50% pasien memiliki riwayat gagal jantung dengan fraksi ejeksi yang normal. Nilai pengukuran serum troponin jantung ketika pasien mengalami gagal jantung akut masih belum pasti. Meskipun beberapa analisis menunjukkan bahwa peningkatan kadar troponin jantung serum berhubungan dengan hasil luaran jangka panjang yang merugikan, implikasi jangka pendeknya masih belum jelas.

Tujuan Penelitian: Mengetahui hs cTnI sebagai prediktor terhadap kejadian kardiovaskular mayor pada pasien gagal jantung akut tanpa sindrom koroner akut di RSUP Dr. Sardjito.

Metode Penelitian: Penelitian ini merupakan studi observasional analitik dengan desain kohort prospektif. Penelitian ini dilakukan pada pasien gagal jantung akut di RSUP Dr. Sardjito Yogyakarta periode Juli 2023-Oktober 2023.

Hasil: Terdapat 79 dari 94 pasien gagal jantung akut tanpa sindrom koroner akut yang memenuhi kriteria inklusi dan eksklusi, dengan 33 subjek (41,7%) mengalami kejadian kardiovaskular mayor. Sebanyak 67,1% (n=53) subjek merupakan laki-laki. Rerata usia subjek penelitian 56,00±13,84 tahun. *Areas under ROC curves* (AUC) hs-cTn I terhadap kejadian kardiovaskular mayor secara umum adalah 0,765, p=0,001dengan *cut off* kadar hs-cTn I =46,85 ng/L. Kejadian kardiovaskular mayor lebih tinggi pada pasien dengan hs-cTn I ≥ 46,85 ng/L (RR 3,44, IK95% 1,69-6,99, p=0,001). *Areas under ROC curves* (AUC) hs-cTn I terhadap kejadian kardiovaskular mayor fatal adalah 0,846 dengan p=0,001 dan *cut off* kadar hs-cTn I =63,25 ng/L. Kejadian kardiovaskular mayor fatal lebih tinggi pada pasien dengan hs-cTn I ≥ 63,25 ng/L (RR 17,6, IK95% 2,43-127,4, p=0,001). *Areas under ROC curves* (AUC) hs-cTn I terhadap kejadian kardiovaskular mayor nonfatal adalah 0,680 dengan p=0,026 dan *cut off* kadar hs-cTn I =24,45 ng/L. Kejadian kardiovaskular mayor nonfatal lebih tinggi pada pasien dengan hs-cTn I ≥24,45 ng/L (RR 9,54, IK95% 1,36-67,10, p=0,002).

Simpulan: *High sensitivity* troponin I merupakan prediktor kejadian kardiovaskular mayor pada pasien gagal jantung akut tanpa sindrom koroner akut.

Kata kunci: *gagal jantung akut, High sensitivity cardiac troponin I, kejadian kardiovaskular mayor, sindrom koroner akut*

ABSTRACT

HIGH SENSITIVITY CARDIAC TROPONIN I AS A PREDICTOR OF MAJOR CARDIOVASCULAR EVENTS IN PATIENTS WITH ACUTE HEART FAILURE WITHOUT ACUTE CORONARY SYNDROME

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Background: Annual hospitalizations for acute heart failure exceed 1 million in each region and most acute heart failure-related care costs are substantial. As many as 80% of patients hospitalized for heart failure have a previous history of heart failure, and more than 50% of patients have a history of heart failure with a normal ejection fraction. The value of measuring serum cardiac troponin when a patient experiences acute heart failure remains uncertain. Although several analyzes suggest that elevated serum cardiac troponin levels are associated with adverse long-term outcomes, the short-term implications remain unclear.

Objective: To determined the role hs cTnI as a predictor of major cardiovascular events in patients with acute heart failure without acute coronary syndrome at Dr. Sardjito General Hospital, Yogyakarta, from July 2023 to October 2023.

Methods: The study was an analytical observational study with prospective cohort design. This study was conducted on acute heart failure patients at RSUP Dr. Sardjito Yogyakarta from July 2023 to October 2023.

Result: There were 79 of 94 acute heart failure patients without acute coronary syndrome who met the inclusion and exclusion criteria, with 33 subjects (41.7%) experiencing major cardiovascular events. A total of 67.1% (n=53) of subjects were male. The mean age of the research subjects was 56.00 ± 13.84 years. The area under ROC curves (AUC) of hs-cTn I against major cardiovascular events was 0.765, p = 0.001 with a cut off level of hs-cTn I = 46.85 ng/L. Major cardiovascular events were higher in patients with hs-cTn I ≥ 46.85 ng/L (RR 3.44, 95% CI 1.69-6.99, p=0.001). The area under ROC curves (AUC) of hs-cTn I against major fatal cardiovascular events was 0.846 with p = 0.001 and the cut off level of hs-cTn I = 63.25 ng/L. Major fatal cardiovascular events were higher in patients with hs-cTn I ≥ 63.25 ng/L (RR 17.6, 95% CI 2.43-127.4, p=0.001). The area under ROC curves (AUC) of hs-cTn I against major non-fatal cardiovascular events was 0.680 with p = 0.026 and the cut off level of hs-cTn I = 24.45 ng/L. Major non-fatal cardiovascular events were higher in patients with hs-cTn I ≥24.45 ng/L (RR 9.54, 95% CI 1.36-67.10, p=0.002).

Conclusion: High sensitivity troponin I is a predictor of major cardiovascular events in patients with acute heart failure without acute coronary syndrome.

Key words: *acute heart failure, high sensitivity troponin I, major cardiovascular events, acute coronary syndrome*