

Nilai Diagnostik Kombinasi Copeptin Ultrasensitif dan High Sensitive Cardiac Troponin T (hs-cTnT) Saat Masuk Rumah Sakit pada Non ST Elevasi Suspek Sindrom Koroner Akut = Diagnostic Value of Combination Ultrasensitive Copeptin and High Sensitive Cardiac Troponin T (hs-cTnT) on Admission in Non ST Elevation Suspect Acute Coronary Syndrome

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Abstrak

ABSTRAK
Diagnosis infark miokard akut ditegakkan apabila memenuhi 2 dari 3 kriteria, yaitu klinis, perubahan EKG, dan peningkatan kadar penanda biokimia jantung. Troponin merupakan penanda biokimia jantung yang spesifik untuk infark miokard, akan tetapi memiliki keterbatasan yaitu kurang sensitif apabila dilakukan pada fase awal karena troponin akan meningkat dalam darah setelah 4 -10 jam setelah infark miokard. Copeptin merupakan penanda stres endogen, yang dapat meningkat pada awal onset infark miokard akut, namun kurang spesifik. Penelitian tentang copeptin-us sebagai penanda biokimia jantung masih sedikit dan di Indonesia penelitian tentang copeptin-us sebagai penanda biokimia jantung belum pernah dilakukan.

Penelitian ini mengikutsertakan 91 pasien tersangka sindrom koroner akut yang terbagi atas 15 (16,5%) NSTEMI, 43 (47,3%) UA, dan 33 (36,3%) non SKA. Diagnosis ditegakkan oleh dokter di IGD RS Jantung dan Pembuluh Darah Harapan Kita. Karakteristik pasien yang memenuhi kriteria inklusi dan eksklusi dicatat dan kemudian dilakukan pemeriksaan copeptin-us.

Nilai rerata copeptin-us pada NSTEMI adalah $151,80 \pm 130,03$ pmol/L, median copeptin-us pada UA adalah $7,12(1,145 ? 62,23)$ pmol/L, dan rerata copeptin-us pada non SKA adalah $7,36 \pm 4,17$ pmol/L. Nilai cut off copeptin-us untuk membedakan NSTEMI dengan UA/non SKA adalah 13,97 pmol/L. Area under curve (AUC) kombinasi hs-cTnT saat masuk rumah sakit dengan copeptin-us adalah 0,941 (0,882 ? 1,00), hs-cTnT saat masuk rumah sakit 0,885 (0,790 ? 0,98), dan AUC hs-cTnT 3 jam kemudian adalah 0,925 (0,824 ? 1,00). Nilai median hs-cTnT saat masuk RS pada NSTEMI adalah 114(29-1102) pg/mL, pada UA adalah 16 (3-3352) pg/mL, dan pada non SKA adalah 6(3-366) pg/mL. Nilai median hs-cTnT 3 jam pada NSTEMI adalah 488 (81-18437) pg/mL, pada UA 14(3-2224) pg/mL, dan pada non SKA adalah 3(3-679) pg/mL. Kombinasi copeptin-us ≥ 13,97 pmol/L dan hs-cTnT ≥ 14 pg/mL dan untuk membedakan NSTEMI dengan UA/non SKA memberikan sensitivitas 100%, spesifisitas 90,78%, NPP 68,18%, dan NPN 100%.

Uji diagnostik kombinasi copeptin-us dan hs-cTnT saat masuk RS lebih baik dibandingkan hs-cTnT saat masuk RS saja dan dapat digunakan untuk rule out NSTEMI.
ABSTRACT
Diagnosis of acute myocardial infarction is made when two of the followed criterias are met; clinical, ECG changes, and increased levels of cardiac biochemical markers. Troponin is a specific cardiac biochemical marker for myocardial infarction but has limitation. It is less sensitive when measured in the early phase, because troponin will increase in blood after 4 -10 hours post myocardial infarction. Copeptin is an endogenous stress marker, it level increases in the early onset of acute myocardial infarction but study on copeptin-us as cardiac biochemical marker are limited and in Indonesia there is no study on copeptin-us has been done.

In this study 91 consecutive patients fulfilled the inclusion and exclusion criteria, consist of 15 (16,5%) NSTEMI, 43 (47,3%) unstable angina, and 33 (36,3%) non acute coronary syndrome. Diagnosis was made by the emergency physician at Harapan Kita cardiovascular centre. Characteristics of these subject were recorded and then the copeptin-us levels were measured.

The mean value of copeptin-us in NSTEMI is $151,80 \pm 130,03$ pmol/L, median copeptin-us in UA is $7,12(1,145 ? 62,23)$ pmol/L, and the mean copeptin-us in non ACS is $7,36 \pm 4,17$ pmol/L. Cut off value of copeptin-us to distinguish NSTEMI from UA/non ACS is 13,97 pmol/L. Area under curve of the combination hs-cTnT on admission and copeptin-us is 0,941 (0,882 ? 1,00), hs-cTnT on admission is 0,885 (0,790 ? 0,98), and hs-cTnT 3 hours later is 0,925 (0,824 ? 1,00). Median value hs-cTnT on admission in NSTEMI is 114(29-1102) pg/mL, in UA is 16 (3-3352) pg/mL, and in non ACS is 6(3-366) pg/mL. Median hs-cTnT 3 hours in NSTEMI is 488(81-18437) pg/mL, in UA is 14(3-2224) pg/mL, and in non ACS is 3(3-679) pg/mL. Combination of copeptin-us ≥ 13,97 pmol/L and hs-cTnT ≥ 14 pg/mL to distinguish NSTEMI from UA/non ACS has sensitivity 100%, specificity 90,78%, PPV 68,18%, and NPV 100%.

The diagnostic value of combination on copeptin-us and hs-cTnT is better than only hs-cTnT on admission so that it can be used to rule out NSTEMI.;Diagnosis of acute myocardial infarction is made when two of the followed criterias are met; clinical, ECG changes, and increased levels of cardiac biochemical markers. Troponin is a specific cardiac biochemical marker for myocardial infarction but has limitation. It is less sensitive when measured in the early phase, because troponin will increase in blood after 4 -10 hours post myocardial infarction. Copeptin is an endogenous stress marker, it level increases in the early onset of acute myocardial infarction but study on copeptin-us as cardiac biochemical marker are limited and in Indonesia there is no study on copeptin-us has been done.

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