

POLITEKNIK KESEHATAN TANJUNGPURUN  
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Profil Troponin dan Kadar Elektrolit pada Penderita Infark Miokard Akut

xvi + 39 halaman, 5 gambar, 7 tabel, dan 3 lampiran

ABSTRAK

Pada penderita infark miokard akut, terjadi peningkatan kadar cTnI dan cTnT dikarenakan adanya kerusakan kardiomyosit dan bersifat diagnostik untuk infark. Infark miokard disebabkan berhentinya suplai darah yang berkepanjangan sehingga terjadi nekrosis di bagian miokardium. Penurunan curah jantung menyebabkan aktivasi beberapa respons sistem humoral yang mempengaruhi homeostasis kardiovaskular dan keseimbangan elektrolit. Natrium, kalium, dan kalsium adalah tiga elektrolit utama elektrofisiologi sel otot jantung. Tujuan Penelitian adalah mengkaji profil troponin dan kadar elektrolit pada penderita infark miokard akut. Jenis penelitian adalah Studi Pustaka dilakukan Maret sampai Mei 2021 dengan menelaah 15 artikel ilmiah yang dipublikasi tahun 2011-2020. Hasil studi pustaka terjadi peningkatan cTnI dengan kadar minimum  $0,50 \pm 1,69 \mu\text{g/L}$  dan maksimum  $10,369 \pm 9,32 \text{ ng/ml}$ , cTnT meningkat dengan kadar minimum  $0,608 \pm 0,15 \mu\text{g/L}$  dan maksimum  $475 \text{ ng/L}$ . Terjadi penurunan natrium dengan kadar minimum  $83,598 \pm 5,424 \text{ mmol/L}$  dan maksimum  $132,51 \pm 4,5 \text{ mmol/L}$ , kalium menurun dengan kadar minimum  $2,5 \pm 0,19 \text{ mmol/L}$  dan maksimum  $4,352 \pm 1,156 \text{ mmol/L}$ , sedangkan kalsium menurun dengan kadar minimum  $3,17 \pm 0,14 \text{ mg/dl}$  dan maksimum  $7,508 \text{ mg/dl}$ . Ada hubungan antara cTnI, cTnT, natrium, kalium, kalsium dengan kejadian infark miokard akut. Kesimpulan adalah natrium dan kalium dapat digunakan sebagai indikator prognosis, sedangkan cTnI dan cTnT sebagai *gold standar* diagnosis infark miokard akut.

Kata Kunci : *Acute Myocardial Infarction, Troponin and Electrolyte Serum*

Daftar Bacaan : 30 (2011-2020)

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Profile of Troponin and Electrolyte Levels in Acute Myocardial Infarction  
Patients

xvi + 39 page, 5 picture, 7 table, dan 3 attachment

ABSTRACT

In patients with acute myocardial infarction, there is an increase in cTnI and cTnT levels due to cardiomyocyte damage and is diagnostic for infarction. Myocardial infarction is caused by prolonged cessation of blood supply resulting in necrosis of the myocardium. Decreased cardiac output leads to activation of several humoral system responses that affect cardiovascular homeostasis and electrolyte balance. Sodium, potassium, and calcium are the three main electrophysiological electrolytes of cardiac muscle cells. The aim of the study was to examine the troponin profile and electrolyte levels in patients with acute myocardial infarction. The type of research is Literature Study conducted from March to May 2021 by reviewing 15 scientific articles published in 2011-2020. The results of the literature study showed an increase in cTnI with a minimum level of  $0.50 \pm 1.69$  g/L and a maximum of  $10.369 \pm 9.32$  ng/ml, cTnT increased with a minimum level of  $0.608 \pm 0.15$  g/L and a maximum of 475 ng/ L. There was a decrease in sodium with a minimum level of  $83,598 \pm 5,424$  mmol/L and a maximum of  $132.51 \pm 4.5$  mmol/L, potassium decreased with a minimum level of  $2.5 \pm 0.19$  mmol/L and a maximum of  $4.352 \pm 1.156$  mmol/L, while calcium decreased with a minimum level of  $3.17 \pm 0.14$  mg/dl and a maximum of 7.508 mg/dl. There is a relationship between cTnI, cTnT, sodium, potassium, calcium and the incidence of acute myocardial infarction. The conclusion is that sodium and potassium can be used as prognostic indicators, while cTnI and cTnT are the gold standard for the diagnosis of acute myocardial infarction.

**Keywords** : *Acute Myocardial Infarction, Troponin and Electrolyte Serum*

**Reading List** : 30 (2011-2020)