

INTISARI

Hubungan Antara Kadar sST2 Serum dengan Keberhasilan Fibrinolisis pada Pasien Infark Miokard Akut dengan Elevasi Segmen ST

Latar Belakang : *Soluble Suppression of Tumorigenecity 2* (sST2) adalah anggota keluarga reseptor interleukin 1 (IL-1) yang merupakan biomarker untuk regangan mekanik miokardium dan inflamasi. Kadar sST2 pada serum akan meningkat pada kondisi infarkmiokard. Infark miokard akut dengan elevasi segmen ST adalah penyakit sindroma koroner akut yang paling sering ditemui dengan angka mortalitas yang tinggi, sehingga dibutuhkan reperfusi segera. Intervensi perkutan primer (IKP) adalah pilihan terapi utama, tetapi fasilitas ini tidak selalu tersedia, maka dipilih terapi reperfusi fibrinolisis sebagai gantinya. Fibrinolisis memiliki angka kegagalan yang cukup tinggi, sehingga perlu diketahui peran kadar sST2 terhadap keberhasilan fibrinolisis.

Tujuan: Untuk mengetahui apakah kadar sST2 serum berhubungan dengan keberhasilan fibrinolisis pada pasien IMA-EST.

Metode: Penelitian dilakukan menggunakan desain potong-lintang, dengan data sekunder yang didapatkan dari *registry* tesis Hartopo *et al.* (2016). Sampel serum untuk pengukuran kadar sST2 diambil saat admisi pasien di IGD RSUP Dr. Sardjito, Yogyakarta dan diukur menggunakan ELISA kit (*human ST2 R&D system*). Kadar sST2 dibagi menjadi dua kelompok, yaitu sST2 supramedian dan inframedian. Keberhasilan fibrinolisis dibagi menjadi kelompok berhasil fibrinolisis dan kelompok gagal fibrinolisis. Analisis hubungan kadar sST2 dengan keberhasilan fibrinolisis dilakukan dengan uji *Chi-Square*, dengan nilai kemaknaan $p < 0,05$.

Hasil: Penelitian ini melibatkan 62 subyek. Nilai median dan rentang interkuartil kadar sST2 dalam darah adalah 761,73 (100,91) pg/ml. Didapatkan 51 subyek (82,25%) berhasil fibrinolisis dan 11 subyek (17,74%) dengan gagal fibrinolisis. Hasil analisis statistik menunjukkan hubungan tidak signifikan antara kadar sST2 dengan keberhasilan fibrinolisis ($p = 0,74$). Proporsi fibrinolisis gagal hampir sama pada kadar sST2 inframedian maupun supramedian, dengan odd rasio=1,248 (CI95%=0,338-4,618).

Kesimpulan: Kadar sST2 serum tidak berhubungan dengan keberhasilan fibrinolisis pada pasien IMA-EST.

Kata kunci: sST2, luaran fibrinolisis, trombolisis, IMA-EST

ABSTRACT

Association of Serum Soluble ST2 with Successful Rate of Fibrinolysis in Patients with ST-Segment Elevation Myocardial Infarction

Background: Soluble Suppression of Tumerigenecity 2 (sST2) is a member of the interleukin 1 receptor family (IL-1) which is a biomarker for mechanical strain of myocardium and inflammation. sST2 levels in serum will increase in the condition of myocardial infarction. Acute myocardial infarction with ST segment elevation is acute coronary syndrome disease that is most often encountered with high mortality, so immediate reperfusion is needed. Primary percutaneous intervention (PCI) is the main treatment choice, but this facility is not always available, so fibrinolysis reperfusion therapy become the alternative choice. Fibrinolysis has a fairly high failure rate, so it is necessary to know the role of sST2 levels in the successful rate of fibrinolysis.

Objective: To determine the association of sST2 and successful rate of fibrinolysis in patients with STEMI.

Method: A cross-sectional study was done with secondary data obtained from the registry of Hartopo *et al.* (2016) thesis. Serum sample were collected at baseline in time of patient admission at the Emergency Unit Dr. Sardjito Hospital, Yogyakarta. sST2 was measured by ELISA method (human ST2 R&D system). sST2 levels were divided into supramedian and inframedian groups. Successful rate of fibrinolysis divided by group succeed fibrinolysis and group failed fibrinolysis. Association between sST2 and successful rate of fibrinolysis was analyzed with the Chi-Square test, with p-value <0.05 regarded as significant.

Results: 62 individuals were involved. Median and interquartile range of the sST2 serum concentration was 761.73 (100,91) pg/ml. 51(82,25%) subject classified as succeed fibrinolysis and 11(17,74%) subject classified as failed fibrinolysis. Statistical analysis found no significant relations between sST2 levels and successful rate of fibrinolysis (p-value =0.74). The proportion of failed fibrinolysis in sST2 inframedian group was the same with that in the sST2 supramedian group, with odd ratio=1.248 (CI95%=0.338-4.618).

Conclusion: Serum concentration of sST2 is not significantly associated with successful rate of fibrinolysis in patients with STEMI.

Keywords: sST2, fibrinolysis outcome, thrombolysis, STEMI