Kinerja jantung menggunakan ekokardiografi, biomarker kardiovaskular, fungsi ginjal dan saturasi oksigen vena sebagai prediktor mortalitas pasien renjatan sepsis = Cardiac performance by echocardiography cardiovascular biomarker renal function and oxygen vein saturation as mortality predictors of septic shock

Pudjo Rahasto, author

Abstrak

ABSTRAK
Sepsis adalah disfungsi organ yang mengancam jiwa akibat gangguan regulasi pejamu sebagai respons terhadap infeksi. Renjatan sepsis adalah subset sepsis dengan abnormalitas sirkulasi, selular, dan metabolisme yang berkaitan dengan risiko kematian. Penelitian ini bertujuan untuk menilai peran ekokardiografi, biomarker kardiovaskular, fungsi ginjal dan saturasi oksigen vena sebagai prediktor kematian pasien renjatan sepsis. Pada pemeriksaan ekokardiografi dinilai fungsi diastolik E/e rsquo;, Fraksi Ejeksi Bilik Kiri, Indeks Kardiak, TAPSE, sedangkan biomarker kardiovaskular dinilai Troponin I dan NT Pro BNP, dengan disain penelitian kohort prospektif. Tempat penelitian di Rumah Sakit Umum Kabupaten Tangerang, Banten. Selama periode 2 tahun penelitian ada 111 pasien masuk dalam kriteria renjatan sepsis yaitu adanya infeksi, hipotensi MAP < 65 mmHg dan Laktat darah > 2 mmol/L. Pada hari pertama dan kelima dilakukan pemeriksaan ekokardiografi dan laboratorium darah pada semua pasien renjatan sepsis. Pada pengamatan selama 10 hari diperoleh pasien yang meninggal 64 58 dan yang hidup 47 42 . Rerata umur pasien 48 18 tahun. Analisis bivariat ditemukan Fraksi Ejeksi Bilik Kiri abnormal memiliki risiko kematian 1,6 kali dibanding normal RR 1,6; p = 0,034 . Biomarker Troponin I abnormal menunjukkan risiko kematian 1,6 kali dibanding normal RR 1,6; p = 0,004 . Pasien dengan gangguan fungsi ginjal memiliki risiko kematian 1,5 kali RR 1,5; p = 0,024 . Pasien dengan Troponin I abnormal dengan atau tanpa gangguan fungsi ginjal menunjukkan peningkatan risiko kematian, demikian pula pada pasien dengan Troponin I normal yang disertai gangguan fungsi ginjal. Hasil analisis multivariat menunjukkan prediktor kematian pasien renjatan sepsis adalah kadar Troponin I dan Fraksi Ejeksi Bilik Kiri RR 1,83; IK95 1,049 ? 3,215; p = 0,043 dan RR 1,99; IK95 1,009 ? 3,956; p = 0,047 Simpulan: Troponin I dan Fraksi Ejeksi Bilik Kiri merupakan prediktor kematian pasien renjatan sepsis. Kata kunci :Ekokardiografi, Kematian, NT Pro BNP, Renjatan Sepsis, Troponin I.
<hr />
ABSTRACT
Sepsis is a life threatening organ dysfunction caused by host regulation disorder in response to infections. Septic shock is a subset of sepsis with circulatory, cellular, and metabolic abnormalities associated with the risk of mortality. The aim of this study is to assess the role of echocardiography, cardiovascular biomarker, renal function and oxygen vein saturation as predictors of mortality in patients with septic shock. In this study, echocardiography examination including diastolic function E e 39 , Left Ventricle Ejection Fraction LVEF , Cardiac Index CI , and TAPSE, whereas cardiovascular biomarker Troponin I and NT Pro BNP were assessed. Research design of this study is cohort perspective. The study took place in Tangerang Regional General Hospital, Banten Province. During two years of research, there were 111 patients included

in septic shock category, which indicated by the presence of infections, hypotension MAP 65 mmHg and serum lactate 2 mmol L. On the first and the fifth day, examinations on echocardiography and laboratory blood test were conducted on each patient of septic shock. During ten days of observation, 64 patients died 54 and 47 patients were survived 42 . The mean age of the patients was 48 18 years old. Bivariate analysis showed abnormal LVEF had 1.6 times higher mortality risk than normal RR 1.6 p 0.034 . Abnormal Troponin I biomarker showed 1.6 higher mortality risk, compared to normal RR 1.6 p 0.004 . The patients with kidney function disorder had 1.5 times higher mortality risk RR 1.5 p 0.024 . Patients with abnormal Troponin I with or without kidney function disorder showed increase in mortality risk. Normal Troponin I with kidney function disorder also increase in mortality risk. Multivariate analysis showed Troponin I and Left Ventricular Ejection Fraction as predictors of mortality in patients with septic shock RR 1.83 CI95 1.049 3.215 p 0.043 dan RR 1.99 CI95 1.009 3.956 p 0.047 In conclusion, Troponin I biomaker and Left Ventricular Ejection Fraction are predictors of mortality in patients with septic shock. Keyword Echocardiography, Death, NT Pro BNP, Septic Shock, Troponin I