Faktor-faktor prognostik mortalitas pasien sepsis berat fase lanjut di Ruang Rawat Intensif Rumah Sakit DR. Cipto Mangunkusumo = Prognostic factors of mortality from late phase of severe sepsis in intensive care unit at DR.Cipto Mangunkusumo General Hospital / Arif Sejati

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Abstrak

ABSTRAK
Latar Belakang. Terdapat gangguan sistem imun pada sepsis. Fase awal ditandai dengan hiperinflamasi, sedangkan fase lanjut ditandai dengan imunosupresi. Kematian kumulatif lebih banyak pada fase lanjut. Saat ini belum terdapat penelitian yang secara khusus meneliti faktor prognostik mortalitas sepsis fase lanjut dan mengembangkan model prediksi mortalitasnya.
Tujuan. Mengetahui faktor prognostik mortalitas sepsis berat fase lanjut di ICU dan mengembangkan sistem skor untuk memprediksi mortalitas.
Metode. Penelitian kohort retrospektif dilakukan pada pasien dewasa yang mengalami sepsis berat di ICU RSCM pada periode Oktober 2011 – November 2012 dan masih bertahan setelah > 72 jam diagnosis sepsis ditegakkan di ICU. Tujuh faktor prognostik diidentifikasi saat diagnosis sepsis berat ditegakkan di ICU. Prediktor independen diidentifikasi dengan analisis Cox’s proportional hazard. Prediktor yang bermakna secara statistik dikuantifikasi dalam model prediksi. Kalibrasi model dinilai dengan uji Hosmer-Lemeshow dan kemampuan diskriminasi dinilai dari area under curve (AUC) dari receiver operating curve.
Hasil. Subjek penelitian terdiri atas 220 pasien. Mortalitas 28 hari sepsis berat fase lanjut adalah 40%. Faktor prognostik yang bermakna adalah alasan masuk ICU (medis (HR 2,75; IK95%:1,56-4,84), pembedahan emergensi (HR 1,96; IK95%:0,99 – 3,90), indeks komorbiditas Charlson > 2 (HR 2,07; IK95%:1,32-3,23), dan skor MSOFA > 4 (HR 2,84; IK95%:1,54-5,24). Model prediksi memiliki kemampuan diskriminasi yang baik (AUC 0,844) dan kalibrasi yang baik (uji Hosmer-Lemeshow p 0,674). Berdasarkan model tersebut risiko mortalitas dapat dibagi menjadi rendah (skor 0, mortalitas 5,4%), sedang (skor 1 – 2,5, mortalitas 20,6%), dan tinggi (skor > 2,5, mortalitas 73,6%).
Simpulan. Alasan masuk medis dan pembedahan emergensi, indeks komorbiditas Charlson > 2, dan skor MSOFA > 4 merupakan faktor prognostik mortalitas sepsis berat fase lanjut di ICU RSCM. Sebuah model telah dikembangkan untuk memprediksi dan mengklasifikasikan risiko mortalitas.
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ABSTRACT
Background. Immune system derrangement occurs during the course of sepsis,

characterized by hyperinflamation in early phase and hypoinflamation and immunosupression in late phase. The number of patient die during late phase is larger than early phase. Until now, there is no study specifically addressing prognostic factors of mortality from late sepsis and developing a mortality prediction model.
Aim. To determine prognostic factors of mortality from late phase of severe sepsis in ICU and to develop scoring system to predict mortality.
Method. A retrospective cohort study was conducted to identify prognostic factors associated with mortality. Adult patients admitted to ICU during November 2011 until October 2012 who developed severe sepsis and still alive for minimum 72 hours were included in this study. Seven predefined prognostic factors were indentified at the onset of severe sepsis in ICU. Cox's proportional hazard ratio was used to identify independent prognostic factors. Each independent factors was quantified to develop a prediction model. Calibration of the model was tested by Hosmer-Lemeshow, and its discrimination ability was calculated from area under receiver operating curve.
Result. Subjects consist of 220 patients. Twenty eight-day mortality was 40%. Significant prognostic factors indentified were admission source (medical (HR 2.75; CI95%: 1.56 – 4.84), emergency surgery (HR 1.96; CI95%:0.99 – 3.90), Charlson comorbidity index > 2(HR 2.07; CI95%:1.32 – 3.23), and MSOFA score > 4 (HR 2.84; CI95% : 1.54 – 5.24). Prediction model developed has good discrimination ability (AUC 0.844) and good calibration (Hosmer-Lemeshow test p 0.674). Based on the model mortality risk can be classified as low (score 0, mortality 5.4%), moderate (score 1 – 2.5, mortality 20.6%), and high (score > 2.5, mortality 73.6%).
Conclusion. Medical and emergency surgery admission, Charlson comorbidity index > 2, and MSOFA score > 4 were prognostic factors of mortality from late phase of severe sepsis in ICU at Dr.Cipto Mangunkusumo general hospital. A model has been developed to predict and classify mortality risk.