

## Peran kadar d-dimer dan fibrin/fibrinogen degradation product sebagai prognosis keluaran pada sepsis = The role of d-dimer and fibrin/fibrinogen degradation product as a prognostic outcome in sepsis

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### Abstrak

Pada sepsis terjadi inflamasi sistemik yang menyebabkan ketidakseimbangan mekanisme hemostasis, yaitu, peningkatan aktivasi koagulasi, penurunan antikoagulan alamiah, dan penurunan aktivitas fibrinolisis. Ketidakseimbangan ini bermanifestasi pada pembentukan trombus mikrovaskular yang menyebabkan perfusi jaringan menurun, terjadi disfungsi organ dan kematian. Tujuan penelitian ini mengetahui peranan kadar D-dimer, kadar FDP dan rasio FDP/D-dimer dalam memprediksi mortalitas 14 hari pada pasien sepsis. Penilaian skor Acute physiology and Chronic Health Evaluation II (APACHE II) digunakan untuk memprediksi morbiditas dan mortalitas. Desain penelitian potong lintang, penyajian data secara deskriptif. Subjek penelitian berjumlah 55 orang yang terdiri dari 32 laki-laki dan 23 perempuan dengan rerata usia 51,62 tahun. Pada subjek penelitian, dinilai korelasi kadar FDP, kadar D-dimer, dan rasio FDP/D-dimer dengan skor APACHE II. Pada hasil penelitian, didapatkan 20 pasien hidup dan 35 pasien meninggal. Median kadar FDP (12,9g/mL) dan kadar D-dimer (7g/mL) subjek meninggal lebih tinggi dibandingkan median kadar FDP (10,9g/mL) dan kadar D-dimer (5,2 g/mL) subjek hidup. Median rasio FDP/D-dimer subjek meninggal (1,9) lebih rendah dibandingkan subjek hidup (2,1). Koefisien korelasi Spearman antara kadar FDP, kadar D-dimer, dan rasio FDP/D-dimer dengan skor APACHE II berturut-turut 0,176, 0,187, dan -0,182. Ketiga korelasi itu secara statistik tidak bermakna ( $p > 0,05$ ). Pada penelitian ini disimpulkan bahwa kadar FDP, kadar D-dimer, dan rasio FDP/D-dimer tidak dapat digunakan sebagai prognosis keluaran sepsis pada mortalitas 14 hari.

.....Systemic inflammation in sepsis could leads to an imbalance homeostatic mechanisms including elevated coagulation activity, decreasing level of natural anticoagulant, and decreased fibrinolysis activity. This could leads to formation of microvascular thrombus which eventually will cause tissue hypoperfusion, organ dysfunction and death. The aim of this research is to understand the role of d-dimer and fibrin degradation products (FDP) and FDP/d-dimer ratio in predicting 14-days mortality rate on sepsis patient. The morbidity and mortality rate on this research were based on APACHE II scoring system. This is a cross sectional research and all data are presented in a descriptive report. Participant of this research was 55 people (32 male and 23 female), average age was 51,62 years old. This research evaluate the correlation between FDP level, d-dimer level and FDP/d-dimer ratio with APACHE II scoring system. From all the participant we had 20 subject alive and 35 died during this research. The median level of FDP (12,9g/mL) and d-dimer (7g/mL) in those who die were higher than those who live (10,9g/mL and 5,2 g/mL). The median FDP/d-dimer ratio in those who die (1,9) was lower comparing to those who live (2,1). Spearman coefficient of correlation between FDP level, d-dimer level and FDP/d-dimer ratio with APACHE II scoring system were 0.176; 0.187; and - 0.182 repectively. This was not significant statistically ( $p > 0,05$ ). This research has come to a conclusion that FDP and d-dimer level, and FDP/d-dimer ratio cant be used as a prognostic outcome in sepsis on 14 days mortality.