

## ABSTRAK

### ANALISIS KADAR PLASMA *INTERLEUKIN-6* DAN PROKALSITONIN PADA PERSALINAN *PRETERM*

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Persalinan *preterm* dapat meningkatkan angka kematian bayi secara signifikan, dimana tingkat kejadian persalinan *preterm* berkisar 5% sampai 18% dari seluruh persalinan. Berdasarkan data WHO tahun 2013, Indonesia menempati peringkat ke 5 dari 10 negara yang memiliki jumlah persalinan *preterm* tertinggi di dunia sebesar 675.700 kelahiran *preterm*. Persalinan *preterm* disebabkan oleh karena banyak faktor, 50% terjadi secara spontan, yang terbagi menjadi 30% akibat ketuban pecah dini (KPD) dan sisanya 20% dilahirkan atas indikasi ibu/janin. Infeksi intrauterin memicu persalinan *preterm* akibat dari aktivasi sitokin proinflamasi oleh mikroorganisme seperti *tumor necrosis factor* (TNF), *interleukin 1 $\beta$*  (IL-1 $\beta$ ) dan *interleukin 6* (IL-6). *Interleukin 6* memicu meningkatnya prokalsitonin (PCT) sebagai penanda adanya infeksi. Tujuan penelitian ini adalah untuk menganalisis kadar plasma IL-6 dan PCT pada persalinan *preterm*.

Desain penelitian *cross sectional comparative*, penelitian dilakukan di RSUD Dr. Rasidin Padang, RSIA Siti Rahmah dan Laboratorium Biomedik Fakultas Kedokteran Universitas Andalas pada bulan September 2015-Juli 2016. Sampel penelitian ini adalah ibu bersalin *preterm* sebanyak 40 orang yang dipilih secara *consecutive sampling*, sampel dibagi menjadi 2 kelompok yaitu ibu bersalin *preterm* dengan ketuban pecah (KPD) dan ibu bersalin *preterm* tidak ketuban pecah dini (tidak KPD). Kadar IL-6 dan PCT diperiksa dengan metode ELISA. Data dianalisa menggunakan uji T test.

Rata-rata kadar plasma IL-6 pada *preterm* KPD adalah  $26,14 \pm 10,01$  pg/ml dan rata-rata kadar plasma IL-6 pada *preterm* tidak KPD adalah  $11,2 \pm 7,22$  pg/ml ( $p < 0,001$ ). Rata-rata kadar plasma PCT pada *preterm* KPD adalah  $1,6 \pm 0,2$  pg/ml dan rata-rata kadar plasma PCT pada *preterm* tidak KPD adalah  $1,29 \pm 0,22$  pg/ml ( $p < 0,001$ ). Secara statistik terdapat perbedaan bermakna kadar plasma IL-6 dan PCT pada *preterm* KPD dan *preterm* tidak KPD.

Kesimpulan penelitian ini terdapat perbedaan bermakna kadar plasma IL-6 dan PCT pada persalinan *preterm*.

UNTUK KEDJAJAAN BANGSA

Kata kunci : *Interleukin 6*, Prokalsitonin, Persalinan *Preterm*

## ABSTRACT

### ANALYZE OF PLASMA INTERLEUKIN-6 AND PROCALCITONIN LEVEL IN PRETERM LABOR

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Preterm labor increases infant mortality significantly, where the incidence of preterm delivery ranges from 5% to 18% of all deliveries. The WHO present 2013, Indonesia was ranked fifth out of 10 countries with the highest number of preterm birth in the world with amounted to 675.700 preterm births. Preterm labor caused by many factors, 50% occurred spontaneously, divided into 30% due to premature rupture of membranes (PROM) and 20% were born on indications of maternal/fetal. Triggers of preterm labor is intrauterine infection, this has resulted in the activation of proinflammatory cytokines such as tumor necrosis factor (TNF), interleukin-1 $\beta$  (IL-1 $\beta$ ) and interleukin-6 (IL-6). Interleukin-6 triggers an increase of procalcitonin (PCT) as a marker of infection. The purpose of this study was to analyze of plasma IL-6 and PCT levels in preterm labor.

The study design was comparative cross-sectional at Dr. Rasidin Padang hospital, Siti Rahmah hospital and Biomedical Laboratory Andalas University School of Medicine in January to April 2016. Samples in this study are 40 inpartu preterm were selected by consecutive sampling, samples were divided with preterm inpartu with preterm rupture of membranes and preterm inpartu without premature rupture of membranes. Interleukin-6 and PCT levels measured with ELISA. Data were analyzed using analysis T Test.

The average plasma IL-6 level in preterm premature rupture of membrane was 26.14 pg/ml  $\pm$ 10,01 pg/ml and the average plasma IL-6 level in preterm without premature rupture of membranes was 11,2 $\pm$ 7,22 pg/ml ( $p < 0,001$ ). The average plasma PCT level at pretem premature rupture of membrane was 1,6 $\pm$ 0,2 pg/ml and the average plasma PCT level at pretem without premature rupture of membranes was 1,29 $\pm$ 0,22 pg/ml ( $p < 0,001$ ). There are significant differences in preterm premature rupture of membrane and pretem without premature rupture of membranes.

In conclusion, there are significant differences in plasma IL-6 and PCT levels in preterm labor.

Keywords: Interleukin 6, Procalcitonin, Preterm labor