

PENELITIAN

**KADAR SURFACTANT PROTEIN-D SERUM PADA PASIEN PENYAKIT
PARU OBSTRUKTIF KRONIS BERKEBAHAYAAN KAMBUIHAN RENDAH
DAN TINGGI**

*(Serum Surfactant Protein-D Level in High and Low Risk of Exacerbation Chronic
Obstructive Pulmonary Disease Patients)*

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ABSTRACT

Chronic obstructive pulmonary disease (COPD) cause high morbidity and mortality worldwide. The exacerbations in chronic obstructive pulmonary disease accelerate the decline in lung function and health status, as well as in increasing the treatment cost and mortality risk. The spiro metric measurement has several limitations in assessing the severity as well as the exacerbation risk in COPD patients. Currently, has been available serum surfactant protein-D, a marker of lung inflammation and lung tissue damage. This protein is produced by the alveolar type II cells and the Clara cells that play role in maintaining the lung stability and pulmonary immune system. The increased level of serum SPD indicates that there is lung epithelial leakage in line with COPD severity increment and reflected in COPD exacerbation level of risk according to combined COPD assessment GOLD criteria of the year 2011. The aim of this study was to know the differences of SP-D serum levels between low and high risk of exacerbation in COPD patients by determination them. This study was conducted from March to July 2014. The subjects of this study were COPD patients diagnosed by spiro metric measurement. The research was conducted in comparative analytic way with a cross sectional study design. The statistical analysis was performed using Mann-Whitney non-parametric test. The subjects were 62 COPD patients. The SP-D serum level at low risk of exacerbation group differ significantly compared to the high risk exacerbation group, 1.8–68.4 ng/mL and 3.36–116.4 ng/mL respectively ($P=0.018$). Based on this study it can be concluded that the SP-D serum levels were higher in COPD patients with high risk exacerbation than the lower risk one. The SP-D serum levels may be considered as a specific marker of lung tissue injury to assess the risk of the exacerbation in COPD patients.

Key words: COPD, Serum SP-D level, COPD combined assessment GOLD criteria 2011, low risk of exacerbation, high risk of exacerbation

ABSTRAK

Penyakit Paru Obstruktif Kronis (PPOK) menyebabkan angka kesakitan dan kematian tinggi di dunia. Kondisi kekambuhan di PPOK mempercepat penurunan fungsi paru dan status kesehatan, serta meningkatkan biaya pengobatan dan bahaya kematian penderita. Pemeriksaan spirometri masih memiliki kekurangan dalam menilai derajat berat dan bahaya kekambuhan pasien PPOK. Saat ini terdapat pemeriksaan tingkat *surfactant* protein-D (SP-D serum) yaitu protein surfaktan yang dihasilkan oleh sel alveolar tipe II dan sel Clara yang memiliki peran mempertahankan stabilitas anatomi paru dan sistem imun di organ tubuh paru, bersifat khusus sebagai pertanda inflamasi dan kerusakan jaringan paru. Peningkatan tingkat serum SPD menandakan kebocoran epitel paru yang menunjukkan tingkat keparahan PPOK semakin meningkat, hal tersebut tercermin di tingkat bahaya kekambuhan yang dinilai berdasarkan combined COPD *assessment* menurut patokan GOLD tahun 2011. Penelitian ini bertujuan untuk mengetahui perbedaan tingkat serum SP-D antara pasien PPOK yang memiliki tingkat bahaya kekambuhan rendah dan yang tinggi. Penelitian dilakukan sejak bulan Maret hingga Juli 2014 dengan subjek pasien PPOK berdasarkan pemeriksaan spirometri. Bentuk penelitian adalah perbandingan analitik dengan rancangan kajian potong lintang. Analisis statistik menggunakan uji nonparametrik Mann Whitney. Subjek penelitian berjumlah 62 orang. Tingkat serum SP-D pasien PPOK bahaya kekambuhan rendah berbeda bermakna dengan yang tinggi, yaitu 1,8-68,4 ng/mL di pasien PPOK bahaya kekambuhan rendah dan 3,36-116,4

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