

Hubungan Kadar YKL-40 dengan Tingkat Kontrol Asma dan Nilai *Forced Expiratory Volume in 1 Second* (FEV₁) pada Penderita Asma

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Latar Belakang

Asma merupakan penyakit inflamasi kronik yang ditandai oleh obstruksi saluran napas episodik, hiperresponsivitas dan *airway remodelling*. Identifikasi biomarker inflamasi penting untuk pengobatan dan *follow-up* dalam manajemen pasien asma. YKL-40 merupakan *glycoprotein* yang meningkat dalam serum pasien asma, berhubungan dengan inflamasi saluran napas sehingga berpengaruh pada tingkat kontrol asma dan penurunan fungsi paru. Penelitian ini bertujuan menganalisis hubungan kadar YKL-40 dalam serum dengan tingkat kontrol asma dan nilai FEV₁ pada penderita asma.

Metode

Penelitian ini merupakan penelitian observasional analitik pada 40 penderita asma yang berobat di Poli Asma-PPOK, Poli Paru RSUD Dr. Soetomo Surabaya. Dilakukan pengukuran kadar serum YKL-40, faal paru, dan status kontrol asma dengan *Asthma Control Test* (ACT). Data dianalisis dengan uji statistik menggunakan uji korelasi *Spearman rho*.

Hasil

Pada penelitian ini nilai median YKL-40 serum sebesar 28,35 ng/ml dengan nilai minimum 0 dan maksimum 305,6 ng/ml. Hasil uji korelasi *Spearman Rho* menunjukkan kadar YKL-40 serum dan tingkat kontrol asma memiliki hubungan negatif bermakna ($r = -0,429$, $p = 0,006$). Terdapat *trend* korelasi negatif antara kadar YKL-40 serum penderita asma dan nilai FEV₁ ($r = -0,239$, $p = 0,137$).

Kesimpulan

Terdapat hubungan yang bermakna antara kadar YKL-40 serum terhadap tingkat kontrol asma. Semakin tinggi nilai YKL-40 serum maka semakin rendah tingkat kontrol asma. YKL-40 dapat memberikan data tambahan untuk evaluasi status inflamasi dan kontrol asma

Kata kunci: Asma, YKL-40, tingkat kontrol asma, FEV₁

Correlation of YKL-40 Serum Level with Asthma Control Status and Forced Expiratory Volume in 1 Second (FEV₁) in Asthmatic Patient

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Background

Asthma is a chronic inflammatory disease characterized by episodic airway obstruction, airway hyperresponsiveness, and remodeling. Identification of inflammatory biomarkers is an important issue due to medication and follow up of the treatment. YKL-40 is a glycoprotein in which the level increased in an asthmatic patient, correlated with airway inflammation, affecting control status, and decreasing lung function in an asthmatic patient. This research goal was to analyze the correlation of serum YKL-40 level with control status dan FEV₁ in an asthmatic patient.

Methods

This was analytical observational research in 40 asthmatic patients medicated in the Asthma-COPD outpatient clinic in Soetomo General Academic Hospital in Surabaya. It has been measured serum YKL-40 level, Spirometri, control status with *Asthma Control Test* (ACT) questionnaire. Data were analyzed with Spearman Rho Correlation Test.

Results

In this research, we found the median of the YKL-40 serum level was 28,35 ng/ml, with the minimum value 0, a maximum 305,6 ng/ml. The result of *Spearman Rho* correlation test showed a significant negative correlation between YKL-40 serum level and asthma control status ($r = -0,429$, $p = 0,006$). There was also a negative trend correlation between YKL-40 serum level and FEV₁ in an asthmatic patient ($r = -0,239$, $p = 0,137$).

Conclusion

There was a significant negative correlation between the YKL-40 serum level to Asthma control status. The higher YKL-40 serum level, the lower the asthma control status. YKL-40 could give additional information in evaluating inflammation status and asthma control.

Keywords: Asthma, YKL-40, Asthma Control Status FEV₁