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Title: The relationship between the serum YKL-40 level and severity of asthma

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Body: **AIM:** The aim of this study was examined a relationship between the serum YKL-40 (chitinase-3-like-1) level and severity of asthma. **METHODS:** In the study, 90 female non-smoker and without additional disease patients (ages 20-66) in a stable and exacerbation period for asthma were grouped as Group I: Stable mild persistent asthma (n: 30), Group II: Stable moderate and severe persistent asthma (n:30), Group III: Exacerbation period (n:30). The differences of the serum YKL-40 level among all the groups were examined with ELISA. Also, in the patient groups with asthma, the serum YKL- 40 level was compared with age, age of asthma, body mass index (BMI), forced expiratory volume in first second (FEV1), peak expiratory flow (PEF), total IgE results. One-way analysis of variance was used to examine differences between groups. Pearson's correlation coefficient was used for correlation between variables. **RESULTS:** The serum YKL-40 levels during asthma exacerbation period were found the highest average (36.36 ± 10.49 ng / ml) while the serum YKL-40 levels were found the lowest average (13.20 ± 5.60 ng / ml) in stable mild persistent asthma have ($p < 0.05$). There was a negative correlation the serum YKL-40 levels and FEV1, PEF in exacerbation period ($p < 0.05$). There was no correlation between the serum YKL-40 levels and other variables in three groups. **CONCLUSION:** Increased the serum YKL-40 may be a marker used to evaluate the level of asthma severity.