عنوان مقاله:

Association of Tumor Necrosis Factor-α and Myeloperoxidase enzyme with Severe Asthma: A comparative study

محل انتشار:

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نویسندگان:

.Ahmed Khalid Aldhalmi - *The University of Mashreq, College of Pharmacy, Baghdad, Iraq*

.Ali Jihad Hemid Al-Athari - *Al-Mustaqbal University College, Department of Pharmacy, Iraq*

.Hayder Abdul-Amir Makki Al-Hindy - *College of Pharmacy, University of Babylon, Babylon, Iraq*

خلاصه مقاله:

Background: Tumor necrosis factor-alpha (TNF-α) may stimulate airway hyperresponsiveness in asthma, which is also affected by neutrophils activity. The latter can be determined indirectly by evaluating myeloperoxidase (MPO) activity. The insufficient studies that investigated the combined association of serum TNF-α and MPO with asthma was objective of this study. Methods: A case-control study included ۱۱۰-asthmatics besides ۹۲-controls. All participants underwent venous sampling for TNF-α and MPO immunoassays. A percentage of predicted "forced expiratory volume in one second (FEV۱%)", and the "peak expiratory flow rate (PEF/L)" of all participants were verified. The statistical analyses had done using SPSS V-۲۵. The accuracy, specificity, sensitivity, and significance of both biomarkers to distinguish asthma examined "under the ROC-curves". Results: High TNF-α levels observed among the controls(p-۰.۰۰۶), opposing the higher MPO levels among the patients(p-۰.۰۰). There were nonsignificant variations of two biomarkers between the treatment groups and nonsignificant correlations of MPO with FEV۱ and PEF. There was a significant correlation of MPO with the TNF-α levels of all participants. The TNF-α showed lower sensitivity, specificity, and accuracy to diagnose asthma. There were no MPO differences according to asthma levels. The TNF-α was higher among the severe asthmatics significantly. Conclusions: TNF-α may be a contributory particle for neutrophilic inflammation of severe asthma. MPO levels were significantly higher among asthmatics, whereas TNF-α levels were lower. TNF-α levels were higher among those with severe compared to mild/moderate asthma. The MPO level has a significant predictive capacity compared to TNF-α for distinguishing asthma from healthy subjects.

کلمات کلیدی:

.Asthma, Inflammation, MPO, Neutrophils, TNF-α