

Highly sensitive C-reactive protein levels in Iranian patients with pulmonary complication of sulfur mustard poisoning and its correlation with severity of airway diseases

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Abstract

Background: Sulfur mustard (SM) is a chemical warfare agent that can cause serious pulmonary complications. This study was designed to determine serum highly sensitive C-reactive protein (hs-CRP) and evaluate its correlation with lung function parameters in patients with chronic obstructive pulmonary disease (COPD) due to SM poisoning. **Methods:** Fifty consecutive SM patients with stable COPD and a mean age 56.3 ± 9.18 years were enrolled in this cross sectional study. Thirty healthy men were selected as controls. Lung function parameters were evaluated. Serum hs-CRP by immunoturbidometry assay was measured in both the patients and controls. **Results:** In the case group, the mean forced expiratory volume in one second (FEV₁) was 2.14 ± 0.76 L ($98.98\% \pm 17.01\%$ predicted). The mean serum hs-CRP was 9.4 ± 6.78 SD and 2.9 ± 1.92 SD mg/L in the cases and controls, respectively, with significant statistical differences ($p < .001$). There was negative correlation between the serum hs-CRP and FEV₁ levels ($p = .01$). The serum hs-CRP levels were also correlated with Global Initiative for Chronic Obstructive Lung disease (GOLD) stages ($r = .49$, $p < .001$). **Conclusions:** Our findings suggest that the serum hs-CRP level is increased in SM patients with COPD and may have a direct correlation with disease severity. It may then be used as a marker for the severity of COPD in patients with SM poisoning.

Reaxys Database Information

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