

عنوان مقاله:

The Possible Relationship between Inflammation, Liver Dysfunction, and COVID-19 Severity: A cross-sectional study

محل انتشار:

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خلاصه مقاله:

**Background:** The Coronavirus disease 2019 (COVID-19) pandemic has posed significant challenges to healthcare systems worldwide. This cross-sectional study aimed to investigate the relationship between inflammatory markers, liver enzymes, lung involvement severity, and mortality in 841 COVID-19 patients admitted to Imam Reza Hospital affiliated to the Mashhad University of Medical Sciences, Mashhad, Iran. **Methods:** The study included demographic information, physical and clinical symptoms, laboratory findings, computed tomography (CT) scan scores, and final outcomes. **Results:** The mean age of the patients was  $58.23 \pm 16.44$  years, and 39.2% were female. The most common underlying disease was hypertension (51.3%), and the most frequent symptom at presentation was shortness of breath (87.1%). The mortality rate was 33.8%. The results showed a significant direct correlation between CRP levels and LDH levels ( $r=0.129$ ,  $p<0.001$ ), as well as between CRP levels and CT scores ( $r=0.322$ ,  $p<0.001$ ). There was also a significant inverse correlation between CRP levels and patients' SPO<sub>2</sub> ( $r=-0.309$ ,  $p<0.001$ ). ESR levels had no significant correlation with SPO<sub>2</sub>, LDH, AST, ALT, or CT scores. Expired patients had significantly lower SPO<sub>2</sub> levels ( $p<0.001$ ) and ALT ( $p=0.044$ ), while CRP ( $p<0.001$ ), LDH ( $p<0.001$ ), and CT scores ( $p<0.001$ ) were significantly higher compared to discharged patients. **Conclusions:** The findings suggest that serum CRP levels at admission can be used as a predictive factor for the severity of lung involvement and mortality in COVID-19 patients. Liver damage was also associated with worse clinical outcomes. ESR levels had no significant relationship with lung involvement severity and mortality, possibly due to the delay in ESR elevation in response to inflammation.

کلمات کلیدی:

COVID-19, Inflammatory markers, Liver enzymes, CRP

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