Journal of Immunoassay and Immunochemistry ›
Volume 44, 2023 - Issue 1

Research Article

C-reactive protein and uric acid roles in distinguishing ST-segment elevation myocardial infarction from non-ST-elevation acute coronary syndrome

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Pages 66-75 | Published online: 08 Sep 2022

Cite this article https://doi.org/10.1080/15321819.2022.2119866 Check for updates

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ABSTRACT

Acute coronary syndrome (ACS) is defined as a range of conditions which the blood flow to the heart was reduced or stopped. This disorder is correlated to a systemic inflammatory response and some biochemical factors. Therefore, the aim of this study was investigations of serum C-reactive protein (CRP) and uric acid levels in ST-segment elevation myocardial infarction (STEMI) and non-ST-elevation ACS (NSTE ACS), as common subtypes of ACS. Patients with ACS (n = 140) were assessed with coronary arteriography and divided into STEMI and NSTE ACS groups. The serum levels of hs-CRP and uric acid were investigated using a routine clinical chemistry

analyzer. Patients with STEMI showed a significant increase in uric acid level compared to those with NSTE ACS ($P < .0001$). Other data indicated that hs-CRP level in patients with STEMI was significantly higher than individuals with NSTE ACS ($P < .0001$). Modeling analysis revealed that the increased levels of acid uric and hs-CRP in patients with STEMI were independent of the effects of age, gender, background diseases, and familial history ($P < .001$). The current study provides further evidence to indicate that hs-CRP and uric acid may be considered as biofactors for comparing STEMI from NSTE ACS and determining disease outcome.

KEYWORDS: Acute coronary syndrome ST-segment elevation myocardial infarction (STEMI) non ST-segment elevation ACS C-reactive protein uric acid

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Acknowledgments

The authors would like to thank all individuals who participated in this study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Authors' contributions

BZ and AG participated in the disease diagnosis, sample collections, and obtained funding for the work. NGH participated in the design of some experiments. HM participated in the statistical analysis of the data, carried out some of the experiments, and drafted the manuscript. All authors read and approved the final manuscript.

Ethics approval and consent to participate

This study was approved by the Ethics Committee of Kashan University of Medical Sciences. All participants signed informed consent forms prior to entering in the study.

Consent for publication

Not applicable.

Availability of data and materials

All data generated or analyzed during this study are included in this published article.

Supplementary material

Supplemental data for this article can be accessed online at https://doi.org/10.1080/15321819.2022.2119866

Additional information

Funding

This work was financially supported by Kashan University of Medical Sciences (protocol number: 95094).

Daniel J. Klionsky et al.
Autophagy
Published online: 8 Feb 2021