Comparison of Two Methods: Qualitative and Quantitative Study of C - Reactive Protein

Kiaei, MR. (BSc) BSc of Medical Laboratory, Paramedical School, Golestan University of Medical Sciences, Gorgan, Iran

HedayatMofidi, M. (MSc) MSc of Immunology, Paramedical School, Golestan University of Medical Sciences, Gorgan, Iran

Koohsar, F. (MSc) PhD Student of Parasitology, Paramedical School, Golestan University of Medical Sciences, Gorgan, Iran

Amini, A. (MSc) MSc of Microbiology, Paramedical School, Golestan University of Medical Sciences, Gorgan, Iran

Hoseinzadeh, S. (BSc)

MSc Student of Biochemistry, Paramedical School, Golestan University of Medical Sciences, Gorgan, Iran

Mirbazel, A.

Laboratory Technician of Talghani Hospital, Golestan University of Medical Sciences, Gorgan, Iran

Hesari, Z. (MSc)

PhD Student of Biochemistry, School of Medicine, Iran University of Medical Sciences, Tehran, Iran

Corresponding Author: Koohsar, F

Email: fkoohsar@yahoo.com

Received: 6 May 2013 Revised: 19 Dec 2013 Accepted: 22 Dec 2013

Abstract

Background and Objective: C - reactive protein (CRP) is an acute phase protein produced in liver. It is less than 5 mg per deciliter in the serum and body fluids of normal individuals, but it is increased suddenly within a few hours following inflammatory reaction. In bacterial and viral infections, active rheumatic fever, acute myocardial infarction and rheumatoid arthritis are also increased. The aim of this study was to investigate CRP level by Qualitative and Quantitative methods.

Material and Methods: The CRP of 200 patients was investigated by quantitative and qualitative methods. Qualitative CRP testing was conducted three times by different people, using two kit of bionic and Omega, and then the mean of the results was reported. For quantitative CRP testing, Immunoturbidimetry was used.

Results: In qualitative CRP test by Bionic kit: 180 (90%) were negative, 6 (3%) weakly positive, 9 (4.5%) +1 and 5 (2.5%) were +2. In qualitative CRP test by Omega Kit: 148 (74%) were negative, 32 (16%) weakly positive, 13 (6.5%) +1, 4 (2%) +2 and 3 (1.5%) were +3. A high percentage of Qualitative results, which were weakly positive, became negative by Quantitative methods. The Qualitative results of +1 and the next became positive by Quantitative methods.

Conclusion: It seems that in the early stages of inflammatory disease, quantitative methods are preferred to qualitative methods. Also, in cases that the CRP test results are weakly positive by qualitative methods, they should be controlled by quantitative methods too.

Keywords: CRP; CRP Test Quantitative; Qualitative CRP Test