

C - reactive protein Level in Coronary Artery Disease Patients

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Abstract

Background: To assess the difference in C-Reactive protein level in coronary artery disease patients and normal controls.

Methodology: This descriptive study was conducted at Haldiram Moolchand Govt. center of cardiovascular Science & Research, Bikaner associated with Sardar Patel Medical College, Bikaner . The present study was conducted on 100 subjects aged between 35 to 60years, comprising of 50 normal control and 50 patients suffering from CAD as study group. The patients with renal disease, liver disease, diabetes mellitus, respiratory failure were excluded from this study.

Result: In this study found that the significantly elevated serum C-RP level was found in the patients of CAD (3.76 ± 2.15 mg/dl) compare to control (0.82 ± 0.38 mg/dl)

Conclusion: The present studies show that serum C-RP level in CAD patients is significantly elevated as compared to controls.

Keywords: Coronary artery disease [CAD], C-reactive

protein[C-RP], Cardiovascular diseases (CVDs).

Introduction

Cardiovascular diseases (CVDs) are the leading cause of mortality and morbidity all over the world, including India. CVD encompasses coronary heart disease (CHD), as well as congestive heart failure, stroke, peripheral artery disease, carotid artery disease, and aortoiliac disease.¹ CHD, also known as coronary artery disease, is the narrowing of the blood vessels, as a result of atherosclerosis that supply blood and oxygen to the heart. CHD can lead to unstable angina, myocardial infarction (MI), and heart failure. According to World Health Organization (WHO) estimates, 17.3 million people died from CVDs in 2008, representing 30% of all global deaths. Of these deaths, an estimated 7.3 million were due to CHD and 6.2 million were due to stroke.² CHD is decreasing in many developed countries (due to improved prevention {in particular reduced cigarette smoking among adults, and lower average levels of blood pressure and blood cholesterol}, diagnosis, and treatment), but is increasing in developing and transitional countries,

partly as a result of increasing longevity, urbanization, and lifestyle changes. In developed countries, CHD is predicted to raise 30–60% between 1990 and 2020. In developing countries, rates are predicted to increase by 120% in women and 137% in men from 1990 to 2020.³ CRP is the forerunner in the hunt for inflammatory markers and is subject to intensive research in numerous studies worldwide. Unlike other markers of inflammation, CRP levels are stable over long periods, have no diurnal variation, can be measured inexpensively with available high-sensitivity assays, and have shown specificity in terms of predicting the risk of CHD.⁴

Methodology

This descriptive study was conducted in Haldiram Moolchand Govt. center of cardiovascular Science & Research, Bikaner associated with Sardar Patel Medical College, Bikaner . The present study was conducted on 100 subjects aged between 35 to 60years, comprising of 50 normal control and 50 patients suffering from CAD as study group. The patients with renal disease, liver disease, diabetes mellitus, respiratory failure were excluded from this study.

The blood sample of CAD patients including controls group was taken after fasting for 10-12 hours. 7-10ml of venous blood was drawn from the antecubital vein by aseptic technique in plain vial. Serum was separated from the collected sample for biochemical analysis. C-RP was estimated in serum by latex agglutination method using C-RP latex kit.

Result

Table 1: Socio-demographic profile

Variable	CAD patients	Control	p-value
Age in Yrs (Mean±SD)	52.32 ± 9.85	51.78 ± 9.16	>0.05
Male : Female	32:18	31 : 19	>0.05

In our study both groups were comparable.

Table 2. CRP Level

C.R.P.	No. of cases	Mean	S.D.
Control	50	0.82	0.38
CAD Patients	50	3.76	2.15
p value	<0.001		

In this study table no.2 shows that the significantly elevated (p=0.0001) serum C-RP level was found in the patients of CAD (3.76 ±2.15 mg/dl) compare to control (0.82 ± 0.38 mg/dl)

Discussion

The present study shows that significantly elevated(p=0.0001) serum C-RP level was found in the patients of CAD (3.76 ±2.15 mg/dl) compare to control (0.82 ± 0.38 mg/dl). These results are in close agreement with the finding of Ridker et al⁵. The result of present study resembled with finding of Jaswal et al ⁶. The rise in C-RP concentration in patients of study group was found to be significantly elevated as evident. The results of present studies are in collaboration with result of 6.14±4.02mg/dl which measured by Jaffery et al⁷

Lagrand et al⁸ determined that serum C-RP level is very highly significant(p<0.001) when compared to control

subjects. Aaron et al⁸ determined the elevated serum C-RP concentration in atherosclerotic patients. Beamer et al⁹ have also reported that stroke patients without infection have increased level of C-RP.

Conclusion

The present studies show that serum C-RP level in CAD patients is significantly elevated as compared to controls.

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