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Association between hs-CRP and HbA1c in Overweight Type 2 Diabetic Female Patients

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Abstract

Background and Objective: High-sensitive C reactive protein (hs-CRP) is associated with atherosclerosis. Previous studies have shown that hs-CRP is associated with insulin resistance, type 2 diabetes and higher HbA1c levels. As type 2 diabetes is often found in overweight women, the present study investigated the relationship between hs-CRP and HbA1c levels in such patients.

Material and Method: This was a retrospective study of type 2 diabetic patients in Rajavithi Hospital from January 2009 until June 2011. All the subjects were females aged 40 years or more who had body mass index (BMI) of more than 25 kilograms per square metre. The patients were examined and blood was collected in order to check hs-CRP and HbA1c levels.

Results: Data from 75 cases, classified the patients into 2 groups by their levels of hs-CRP and risk of coronary artery disease. Of the 75 patients, 35 had hs-CRP levels less than 1 mg/L, and the remaining 40 patients had hs-CRP levels of 1 mg/L or more, representing 46.67% and 53.33% respectively, and it was found that hs-CRP values correlated with HbA1c levels. The group with hs-CRP of less than 1 milligram per liter had a mean HbA1c of 7.36 + 1.23%, while the group with hs-CRP of 1 mg/L or more had a mean HbA1c of 8.77 + 1.78%, with statistical significance at p-value < 0.001.

Conclusion: In the present study of patients with type 2 diabetes, the authors found that hs-CRP levels correlated with HbA1c levels. Mean HbA1c levels were significantly higher in patients who had hs-CRP levels of 1 mg/L or more (p-value < 0.001). Other factors such as age, blood pressure, BMI, LDL-C, serum creatinine were not correlated with hs-CRP level.

Keywords: hs-CRP, HbA1c

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