

# Association of C-reactive Protein and Cardiovascular Disease in Obese Patients

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## ABSTRACT

C-reactive protein (CRP) is an acute phase reactant and nonspecific marker of inflammation that is predominantly produced in the liver in response to proinflammatory cytokines, particularly interleukin 6 (IL-6). It has been recognized that approximately 30% of IL-6 originates from adipose tissue, and its concentration increases with increasing obesity. This study investigated the association of CRP with cardiovascular disease (CVD) in obese patients, utilizing National Health and Nutritional Examination Survey data on adults aged  $\geq 40$  years of age. Mean CRP levels were significantly higher ( $p < 0.0001$ ) in obese sub-

jects (body mass index  $> 30$  kg/m<sup>2</sup>) compared with normal. However, CRP levels were not significantly different ( $p = 0.0575$ ) in patients with self-reported history of CVD compared with those who did not report CVD. Moreover, the overall association between CVD status and CRP levels in obese patients was not significant ( $p = 0.0575$ ). This study also examined if obesity is a risk factor for high CRP levels using logistic regression and found that individuals with high CRP levels were more likely to be obese ( $p < 0.0001$ ). The results of this study have important implications for obese individuals with high CRP levels.

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