Abstract

Research Title : Level of high sensitive C-reactive protein (hs-CRP) and lipid profile

in healthy volunteers with prehypertension

Author : Assist. Prof. Dr. YuttanaSudjaroen

Year : 2013

……………………………………………………………………….

*Background:*Atherosclerosis is a high-cost disease and it complications still represent the cause of death in most industrialized countries and Behaviors of Thai population are trend to similar Western people especially, food intake behavior. Thus, efficacious prevention includes treatment of most important cardiovascular risk factors, such as cigarette smoking, hypertension, hypercholesterolemia, diabetes and obesity.However, traditional risk factors, such as lipid profiles may be absent for subclinical people, while new emerging inflammatory factors namelyhigh-sensitive C-reactive protein (hs-CRP), an acute phasereactant protein, is a proinflammatoryatherogenic circulating marker which can prove to be an early cardiac risk predictor.

Aim: The aims of the present study were 1) to comparehs-CRP levels between healthy volunteer with normal blood pressure and with prehypertension, and 2) to compare hs-CRP levels along with other risk including body mass index (BMI) and lipid profiles.

Materials and methods: This was a case control study including 40healthy volunteers with prehypertension and another40 age- and sex-matched healthy controls.Twelve-hour fasting blood samples were collected from all the participants. Serum was assayed for hs-CRP and lipid profile byCOBAS INTEGRA® 400 plus(Roche-diagnostics, Switzerland). Demographic data including age and BM had been collected. Results were analyzed by unpaired *t* test and risk prediction of hs-CRP and lipid profiles were calculated by relative risk with odd ratio (95% CI).

*Results:*All of parameters including age, BMI,cholesterol, triglyceride, HDL-cholesterol, LDL cholesterol andhs-CRP between prehypertension and control groups were statistically significant (*P*<000.1). BMI and all lipid profiles were within reference range except hs-CRP which was elevated among prehypertension group hs-CRP levels (6.27±7.8 mg/l) compared to controls (0.43±0.26).Relative risk of hs-CRP for prehypertension was 6.3 with odds ratio of 15.48, whereas relative risk of lipid profiles for prehypertension prediction was only 1.28 with odds ratio of 1.67.

Conclusion: The study suggests that hs-CRP is early cardiac risk predictor even with normal lipidprofile and can help measure additional risk especially subclinical people such as prehypertension.

Keyword:cardiovascular diseases, hs-CRP, prehypertension, lipid profile