POSITIVE INTERACTIONS BETWEEN HEMOGLOBIN AND HIGH-SENSITIVITY C-REACTIVE PROTEIN IN THE DEVELOPMENT OF CORONARY SPASM IN PATIENTS WITHOUT OBSTRUCTIVE CORONARY ARTERY DISEASE

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Background: The benefit of modest anemia, although well known in cerebral spasm, is unclear in coronary spasm (CS). Interactions between hemoglobin and high-sensitivity C-reactive protein (hs-CRP) in patients with CS have not been evaluated.

Methods: Patients undergoing diagnostic coronary angiography with proven CS but without coronary stenosis >50% were evaluated. A total of 871 subjects were analyzed. The levels of hs-CRP measured immediately before coronary angiography were examined in a subset of 524 patients.

Results: In 343 women, patients with CS were likely to have high levels of hemoglobin, hematocrit and hs-CRP. In 528 men, patients with CS were likely to be older, current smokers and have high levels of hs-CRP. In women, hemoglobin and hs-CRP level were associated with CS, with hs-CRP level being the most significant factor (odds ratio [OR]=1.14, 95% confidence interval [CI]=1.05-1.24, p=0.002). In men, age and smoking were independently associated with CS. Among women with high hemoglobin level, the ORs from the lowest to the highest tertiles of hs-CRP were 1.33, 2.14, and 6.14 (CI=1.51-24.95, p=0.011). In women with low hemoglobin level, an elevated risk was found from the middle to the highest tertiles of hs-CRP; OR from 0.73 to 3.64 (CI=1.46-9.05, p=0.005). This relationship was not observed in men.

Conclusions: The relationship between hemoglobin and hs-CRP in CS differed between women and men. There is a positive interaction between hemoglobin and hs-CRP in women with this disease.