Predictors of Plaque Destabilization in 'Vulnerable Patients'

Diego Medvedofsky [1], Shmuel Schwartzenberg [2], Gad Keren [2], Jacob George [2]

[1] *Internal Medicine, B, Meir General Hospital, Kfar Saba, Israel,* [2] *Cardiology, Cardiac Catheterization, Tel Aviv Sourasky Medical Center, Tel Aviv, Israel*

Background: It is not yet understood why some patients with prexisting coronary atherosclerosis develop recurrent cardiac events ('vulnerable patients') whereas others, with a similar atheromatous burden remain asymptomatic.

Objective: We sought to determine if any laboratory tests might be related to a negative history of myocardial infarction in patients with angiographically significant coronary artery disease.

Methods and results: We studied a total of 109 patients aged 41-88 years without renal failure and severe heart failure who were catheterized in the last 2 years in our institution and were found to have 2 or 3 vessel coronary artery disease. Out of this population, 37 patients with a history of more than one event of myocardial infarction were matched with 37 patients without evidence of myocardial infarction with regard to the number of coronary arteries involved, age, sex and major cardiovascular risk factors. After the matching process, of the various parameters recorded, we found there were statistically significant lower hemoglobin levels in the non-ischemic versus the ischemic patients (13.0 gm/dl versus 13.8 gm/dl, p=0.042). Other tested parameters including platelets, white blood cells and its differential, were not predictive of coronary events.

Conclusion. Hemoglobin levels were signficatly elevated in 'vulnerable patients' as compared with asymptomatic patients with similar coronary atherosclerotic burden. Higher hemoglobin levels superimposed on a preexisting coronary artery disease could have contribued to the coronary plaque destabilization.