

LETTER TO EDITOR

Platelet Count in Patients with Acute Coronary Syndrome

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Platelets play an important role in pathogenesis of coronary artery obstruction. Acute coronary syndromes are associated with endothelial injuries, atherosclerotic plaque rupture, platelet activation, thrombosis formation and finally artery obstruction. Platelets are activated by attachment to the subendothelial structure and release granules containing A2 Thromboxane, serotonin, vasoconstrictors and platelet aggregation factors. Increased platelet activity has been associated with higher severity of ischemic cardiac disease. It has been shown that patients with cardiac ischemia who have a higher platelet count are more at risk of mortality. A study by Shefaee et al. in 2005 showed that platelet count change in those with acute coronary syndrome is significant; in these individuals, platelets decrease at the site of lesion due to being used up. In other words, patients with acute coronary syndrome have a lower platelet count compared to those with stable angina and normal people. Zhang et al. study in 2015 showed that platelet count in patients with unstable angina and myocardial infarction decreases more compared to patients with chronic stable angina and those with non-cardiac chest pain. The writers of this letter studied 180 patients with the mean age of 55.57 ± 15.11 years (20-86) and compared the number of platelets in 3 groups of non-cardiac chest pain (60 cases), stable cardiac angina (60 cases) and unstable cardiac angina or myocardial infarction (60 cases). Mean platelet count in the 3 mentioned groups was 258.73 ± 62.92 , 238.95 ± 65.88 and 218.78 ± 47.82 thousand/ μ l, respectively ($p = 0.001$). As you can see, the number of platelets in the group with unstable angina was significantly lower in this comparison, too. However, the important point is that in all these cases platelet count is in the normal range (150-400 thousand/ μ l) and perhaps considering the number of platelets alone cannot help in differentiation of this group of patients. It seems that measuring substances released from platelet instead of considering platelet count can be more helpful in differentiating the 3 mentioned conditions. However, reaching a decision regarding the correlation of rate and pattern of platelet decrease with various states of coronary syndrome needs more accurate studies with bigger sample sizes.