The role of platelets CD40 ligand (CD154) in acute coronary syndromes.

Abu el-Makrem MA, Mahmoud YZ, Sayed D, Nassef NM, Abd el-Kader SS, Zakhary M, Ghazaly T, Matta R.

Abstract:

BACKGROUND: Despite of the proof of the biological function of CD154 on platelets, there has been little information about its role either in patients with stable angina or in those with acute coronary syndrome (ACS). OBJECTIVE: This study aimed to investigate the expression of CD154 on platelets and its role in ACS. METHODS: The study included 50 patients with ACS (24 patients with acute myocardial infarction (AMI) and 26 patients with unstable angina (UA)), 20 patients with stable angina (SA) and 18 healthy volunteers. CD154 and CD62 expression on platelets were analyzed by flow cytometry. Their relations to the clinical and laboratory data were assessed in the studied group. RESULTS: Patients with AMI and UA had higher levels of platelets CD154 and CD62 as compared to those with SA and among patients with AMI, UA and SA versus healthy volunteers. Platelets CD154 showed significant positive correlations with the studied pro-inflammatory markers (Ox-LDL, CRP and fibrinogen), segmental wall motion score and the studied risk factors. There were significant negative correlations between platelet CD154 and serum nitric oxide among patients. CONCLUSIONS: CD154 may be used as a marker of thrombo-embolic events. Nitric oxide may have an anti-atherogenic effect. There is an association between platelet activation and severity of coronary artery disease among patients with ACS.

Published In:

Thromb Res., Vol. 124 - No. 6, pp. 683-688