Monocyte-platelet aggregates and platelet micro-particles in patients with post-hepatitic liver cirrhosis

Douaa Sayed , Nabila F. Amin , Ghada M. Gala

Abstract:

INTRODUCTION: Monocytes are the cells that play a crucial role in the pathogenesis of liver damage and liver cirrhosis (LC), and as platelets, by connecting hemostasis and inflammatory processes, participate in pathogenesis of chronic liver diseases, we aimed to investigate the presence of monocyte-platelet aggregates and platelet micro-particles (PMPs) and their role in LC. PATIENTS AND METHODS: The study included 60 patients with post-hepatitic LC and 20 healthy controls. Activated monocytes (CD11b, HLA-DR, CD14, CD16), monocyte-platelet aggregates (CD41/CD14), activated platelets (CD41/CD62) and PMPs were analyzed by flow cytometry. Their relations to the clinical and laboratory data were assessed in the studied group. RESULTS: Patients with LC had higher levels of activated platelets, activated monocytes and monocyte-platelet aggregations as compared to healthy controls. PMPs percentage showed no significant differences between patients and controls but significantly increased in both patients with no bleeding and patients with splenomegaly compared to patients without. All studied markers showed no significant differences between patients with thrombocytopenia and those with normal platelet counts and also between patients with different disease stages. Positive correlations between monocyte-platelet aggregates and both activated platelets and monocytes were demonstrated. There were significant negative correlations between PMPs and both age and prothrombin time among patients. CONCLUSIONS: The stage of post-hepatitic LC is not the only factor that affects the level of activated platelets, activated monocytes and monocyte-platelet aggregates. PMPs have no influence on thrombocytopenia but may have the potential to influence the progression of clotting activity in LC. Copyright (c) 2009 Elsevier Ltd. All rights reserved.

Keywords:

Liver cirrhosis; Monocyte-platelet aggregates; Platelets micro-particles

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