Increased circulating red cell microparticles (RMP) and platelet microparticles (PMP) in immune thrombocytopenic purpura.

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Abstract:

It has been suggested that patients with ITP have an increased thrombotic risk compared to the general population and compared to those with other causes of acquired thrombocytopenia. The pro-coagulant role of microparticles in some clinical situations has been reported, yet, very little data is available about microparticles in ITP and their effect. AIM OF THE WORK: To assess the levels of red cell microparticles (RMP), platelet microparticles (PMP) and their possible relation to some haemostatic parameters in ITP patients PATIENTS AND METHODS: The levels of RMP and PMP in addition to FVIII, FIX, FXI, PC and aPTT were assessed in 29 patients with chronic ITP (8 of them had splenectomy). Ten apparently healthy volunteers served as controls. We compared the levels of the studied parameters in ITP patients with that in controls. Correlations of these parameters with each other and with the platelet count were studied. RESULTS: RMP (p=0.0001), PMP (p=0.0001), D- dimer (p=0.048), FVIII (p=0.049), FIX (p=0.0001) and FXI (p=0.0001) were significantly higher in ITP patients compared to controls. aPTT was significantly longer in ITP patients (p=0.0001) but PC showed no significant difference. However, RMP was associated with shorter aPTT. Generally, the coagulation factors were negatively correlated with platelet count in ITP patients. Compared to controls, ITP patients preserved higher levels of RMP and PMP even in those with near-normal platelet count. Splenectomy was associated with lower FIX (p=0.0001) and FXI (p=0.028) and higher RMP (p=0.0001). IN CONCLUSION: Chronic ITP was associated with increased levels of RMP and PMP. FVIII, FIX and FXI were increased in ITP patients but showed a negative correlation with platelet count. Splenectomy was associated with increased levels of RMP and lower levels of FIX and FXI. The high level of microparticles in ITP might point towards a prothrombotic tendency.

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