Patrick Van Dreden et al., J Blood Disord Transfus 2017, 8:2 (Suppl)
DOI: 10.4172/2155-9864-C1-026

Defining the impact of immunomodulators and thrombin generation profile in patients with active multiple myeloma: The roadmap study

Patrick Van Dreden[1], Loula Papageorgiou[4], Despina Fotiou[2], Gueye Mor Seny[3], Laurent Garderet[3], Evagelos Terpos[2], Stella Salta[4], Theodoros Sergentanis[2], Athanasios Dimopoulos[2], Annette K Larsen[5], Ismail Elalamy[4] and Grigoris T Gerotziafas[4,5]

[1]Diagnostica Stago, Asnières-sur-Seine, France
[2]University of Athens, Greece
[3]Hôpital Saint-Antoine, France
[4]Hôpital Tenon (AP-HP), France
[5]Centre de Recherche Saint Antoine - INSERM, France

Background: Multiple myeloma (MM) and the associated immunomodulatory (IMiD) treatments are associated with risk of vascular complications. Thrombin generation (TG) assessment reflects the equilibrium between procoagulant and anticoagulant activities in the plasma.

Aim: We conducted a multicenter study to explore the relationship between stages of MM and alterations of thrombin generation profile.

Methods: Patients with MM (n=129) were recruited from July 2014 to December 2016 and stratified to the following groups: 44 newly diagnosed treatment-naïve patients (ND), 33 patients receiving IMiDs (IM), 45 in complete remission (CR) and 7 patients in partial remission on IMiDs (PR/IM). Patients on anticoagulant treatment were excluded from the study. The control group (CG) consisted of 30 healthy age and sex-matched individuals. Samples of platelet-poor plasma (PPP) were assessed for thrombin generation (TG) with the TF 5pM PPP-Reagent® on Calibrated Automated Thrombogram (Stago, France). The upper and lower normal limits (LNL and UNL) were calculated by the mean±2 SD.

Results: Patients with ongoing MM (ND, IM, PR/IM) had significantly lower peak, ETP and MRI as compared to the CG. In contrast, patients in CR had peak, ETP, MRI values similar to the CG. Patients with PR had lower ETP and MRI values as compared to the CR group (Table 1). In ND 8% had TG>UNL and 20% had TG<LNL. In IM 9% had TG>UNL and 57% had TG<LNL. None in PR/IM had TG>UNL and 33% had TG<LNL. In CR, 28% had TG>UNL and 14% had TG<LNL.

Conclusion: Patients with active MM showed attenuated TG which was enhanced in the presence of IMiD treatment. Complete remission was associated with normalization of TG. The unexpected decrease of TG in patients with active MM and its normalization when the disease is in a remission might indicate that this test reflects vascular aggression which is followed by release of thrombomodulin, heparin cofactor II, sEPCR and TFPI.

Biography

Patrick Van Dreden is a Head of Clinical Research Department and Prospective Research Manager at Diagnostics Stago. He has Degree of Hemostasis study: Pathogenesis and pharmacology of thrombosis. He is an International Member of Society of Haemostasis and Thrombosis, Member of the European Thrombosis Research Organization, Member of the Mediterranean League against Thromboembolic Diseases, Member of the American Society of Hematology and Member of International Academy of Clinical and Applied Thrombosis/Hemostasis.

patrick.vandreden@stago.com

Notes: