The Official Journal of the Italian Society for the Study of Hemostasis and Thrombosis
SISET
Società Italiana per lo Studio dell'Emostasi e della Trombosi
Corso Nazionale SISET
Bergamo | 23-25 ottobre 2025

29TH NATIONAL CONFERENCE OF THE ITALIAN SOCIETY FOR THE STUDY OF HEMOSTASIS AND THROMBOSIS, 2025

ABSTRACT N. PO71

HOW THE PRESENCE OF PARAPROTEINS CAN INTERFERE IN COAGULATION TESTS: CASE REPORT.

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Background: A 62-year-old man with suspected lymphoproliferative disease awaiting gastroscopy to confirm the localization of hematologic pathology in the stomach underwent first-level coagulation according to prehospitalization protocols. As the PT was prolonged and the aPTT was indeterminable. The blood coagulation profile tests revealed a few important changes: the PT was 5.03 (i.e. 0.80- 1.15) and the aPTT ratio (i.e. 0.85- 1:20) was indeterminable.

Case report: The aPTT was then performed with the patient's normal plasma pool plasma mixture at a ratio of 1:1, achieving a ratio of 6.04. The determination of lupus anticoagulant performed with dRVVT was positive. Antiphospholipid antibody (aPL) determination showed a positive value for anticardiolipin antibody IgM (6126 U7m/L; v.r. <20). In contrast, the anti-inflammatory antibodies β2-glycoprotein-I (aβ2GPI) IgG and IgM were both negative. The specific factors (II, V, VII, IX, IX and XI) were normal. Serum electrophoresis indicated the presence of a migrating monoclonal component (CM) in the γ-globulin zone. In the subsequent immunofixation of the serum, the CM could be typed in IgM-kappa (17.8 g/L). It was therefore hypothesised that the abnormal protein component could interfere with the coagulation tests. To test this hypothesis, the following experiment was planned: Isolation of CM IgM-kappa by polyacrylamide gel electrophoresis in the presence of sodium dodecyl sulphate and subsequent purification using HiTrap IgM Purification HP columns. The resulting CM was added in progressively increasing concentrations to a pool of normal plasma (PNP); PT and aPTT were performed with these different concentrations.

Results/conclusions: The results showed a prolongation of both tests, a phenomenon that was not observed when a buffer solution was added to the PNP. Finally, these clotting times were checked with thromboelastography, which gave normal results. In this way, it was possible to determine the extent to which CM is functionally able to interfere with the system for determining clotting time.

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