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Gastrointestinal bleeding secondary to acquired factor X deficiency in the setting of multiple myeloma

A 59 year-old male with no prior history of coagulopathy presented to the hospital with recurrent gastrointestinal bleeding. Diagnostic studies revealed creatinine of 3.13 g/dL, hemoglobin of 6 g/dL, platelets of 106,000/microliter and INR of 3.3, with bleeding gastric and duodenal ulcers on endoscopy. Mixing studies identified coagulation factor deficiency, low direct factor X and factor X activity <2%. Serum protein electrophoresis showed no monoclonal protein, but serum kappa/lambda free light chain ratio was elevated at 174.78. Bone marrow biopsy demonstrated 20-50% atypical plasma cells and absent high risk cytogenetics by FISH. Diagnosis was made as stage III multiple myeloma with acquired factor X deficiency. Treatment involved bortezomib, dexamethasone and factor X infusions, followed by melphalan autologous stem cell transplant. By day 40 post-transplant, patient achieved independence from factor X infusions. Bleeding occurs in up to 15% of patients with multiple myeloma, but is rarely the presenting symptom. Factor X deficiency, defined by Factor X activity <10%, develops in <5% of patients with plasma cell dyscrasias. Pathogenesis involves formation of complexes between para-proteins and clotting factor X, which are then cleared by the renal and reticuloendothelial systems. Presentation features bleeding in the brain, joints and mucosal surfaces. Laboratory workup typically shows elevated PT, aPTT and normal bleeding time. Mixing with normal plasma corrects factor X deficiency, and factor X assay demonstrates decreased antigenic and functional factor X. Based on retrospective data, induction chemotherapy followed by high-dose melphalan autologous stem cell transplant can successfully treat Factor X deficiency.

Biography

Samuel B Reynolds has completed his MD from the University of South Florida. He is currently in his first year of Internal Medicine residency training at the University of Louisville, School of Medicine. He has published numerous manuscripts in the field of both oncology and general medicine and plans to pursue advanced training in Hematology and Oncology following residency.

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