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

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Abstract

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. Blending considers distinguished coagulation factor inadequacy, low direct factor X and factor X action<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 turned into made as level III a couple of myeloma with acquired issue X deficiency. Treatment worried bortezomib, dexamethasone and component X infusions, accompanied by means of melphalan autologous stem cell transplant. By day 40 post-transplant, patient accomplished independence from issue X infusions. Bleeding happens in up to 15% of patients with a couple of myeloma; however is rarely the presenting symptom. Factor X deficiency, defined by using Factor X activity.

Introduction

Gastrointestinal (GI) tract involvement is a common feature in systemic amyloidosis, but is regularly overlooked because of symptomatic involvement of other organs just like the coronary heart and kidneys. Autopsy studies show deposition of amyloid in the GI tract in 70% to 100% of patients. GI tract amyloidosis typically takes the form of malabsorption syndromes and nonspecific GI tract signs,however GI tract bleeding as a manifestation has been pronounced by means of several authors. The structural involvement of the GI tract is regularly compounded through coagulation abnormalities secondary to component deficiencies,leading to episodes of GI tract bleeding. We have noticed a excessive incidence of GI tract bleeding amongst sufferers at our group undergoing stem cellular transplantation for systemic amyloidosis. We undertook an assessment of sufferers in whom GI tract bleeding evolved publish transplantation to identify threat elements for the improvement of bleeding.

Factor X deficiency is a unprecedented bleeding disorder that can be associated with life-threatening bleeding events. Factor X deficiency can both be inherited and obtained. Acquired cases of aspect X deficiency can be seen in sufferers with plasma cell dyscrasias in addition to amyloidosis. Coagulopathy, with clinically applicable bleeding events, even though rare, isn't an uncommon phenomenon for patients with systemic amyloidosis. However, clinically applicable bleeding in sufferers with symptomatic more than one myeloma, with out associated amyloidosis, has no longer been suggested in literature before. We present a unprecedented case of a couple of myeloma with out concomitant amyloidosis that presented with life-threatening bleeding from obtained deficiency of factor X and spoke back remarkably to treatment for underlying a couple of myeloma. This case now not handiest highlights the diagnostic workup required in sufferers with element X deficiency however also presents the principles of control of acquired coagulopathy in plasma cell dyscrasias.

We present a case of a couple of myeloma (MM) complicated by recurrent amyloidosis-induced gastrointestinal bleeding. The patient provided with episodes of coffee-floor vomitus or huge hematochezia. No bleeding attention could be diagnosed using endoscopy, a crimson blood cell scan, or angiography. Finally, a tissue biopsy taken at the irregular mucosa besides sticking out vessels in the duodenum confirmed the diagnosis of gastrointestinal amyloidosis. As this case illustrates, the absence of systemic signs and symptoms of amyloidosis and nonspecific endoscopic findings in gastrointestinal amyloidosis might also make analysis difficult. Therefore, we suggest that a diagnosis of amyloidosis-caused

gastrointestinal bleeding should be taken into consideration in sufferers with MM with an difficult to understand hemorrhage.

Materials and Methods

We retrospectively reviewed the medical data of sufferers who underwent excessive-dose chemotherapy with stem cellular transplantation at our organization for primary systemic amyloidosis. Forty-5 patients with biopsy-proven amyloidosis underwent transplantation among 1995 and 2000 as part of an ongoing medical trial. Patients with familial, secondary, or localized amyloidosis and those with primary amyloidosis with only carpal tunnel syndrome or purpura have been not candidates for transplantation. Patients had to have first-class cardiac (ejection fraction >50%) and pulmonary (forced expiratory extent in 1 s >45%, pressured important capacity >60%, diffusing potential of the lung for carbon monoxide >50%) characteristic to be taken into consideration for transplantation.

Patients obtained melphalan (200 mg/m2) by myself or melphalan (140 mg/m2) plus total frame irradiation inside 30 days of finishing the stem mobile series. Stem cells have been reinfused on day zero with at the least an 18-h interval between the melphalan and stem cellular infusion. GM-CSF (5 μg/kg) changed into administered from day +1 until the ANC changed into >zero.5 × 109/l on 2 consecutive days. Patients who had big issues of fluid accumulation with increase element use throughout stem mobile collection was not given increase factors submit transplantation.

Stastistical analyses

Statistical analyses have been performed using Statview software from SAS Institute. A χ2 check became used to examine nominal variables and a t-check for contrast of non-stop variables.

Results

We evaluated exceptional pretransplantation variables and transplant-associated variables to discover any predictive features. There were no correlations among age, platelet nadir, and CD34 rely of the graft or time to neutrophil engraftment and the danger of bleeding. Women have been much more likely to have GI tract bleeding (P = zero.015), as had been patients with sluggish platelet engraftment (P = 0.02).

Discussion

GI tract involvement in systemic amyloidosis can appear as various signs. Most symptoms are nonspecific inside the form of anorexia, nausea, vomiting, diarrhea, stomach pain, and weight loss. Malabsorption syndrome is the most widely identified characteristic of intestinal involvement in systemic amyloidosis. Patients who've amyloidosis can present less generally with obstruction, infarction and perforation of the gut.

The expanded hazard of GI tract bleeding for the duration of the publish-transplantation period amongst sufferers with amyloidosis isn't always completely understood. The tissue toxicity associated with the conditioning regimen often results in lack of mucosal integrity submit transplantation, and in those undergoing BMT for amyloidosis this might be further aggravated by Way of the underlying vascular rigidity and fragility.

Conclusion

GI tract bleeding happens more frequently after autologous stem cellular transplantation for amyloidosis than for other disorders. It results in increased health center and in depth care unit stay, more invasive procedures, and elevated morbidity related to the transplant. No correctable factors may want to be discovered in our examine that elevated the chance of bleeding.