SPLENIC CAPSULAR TEAR AFTER LAPAROTOMY IN A PATIENT WHO RECEIVED PEGFILGRASTIM

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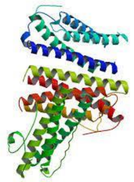

INTRODUCTION:

- Pegfilgrastim indication: decrease incidence of infection from febrile neutropenia during chemotherapy treatment.
- MOA: Pegfilgrastim mimics G-CSF on myeloid cells. This results in activating mature neutrophils and granulocytes, and causing increased overall neutrophil count.
- Spontaneous splenic ruptures likely related to increased splenic size are uncommon but serious complications of treatment with pegfilgrastim and other granulocyte colony stimulating factors (G-CSF).
- Literature review by R. Veerappan et. al cited several studies which evaluated individuals who had received G-CSF medications; showed spleen length increase by an average of 1.1 cm.

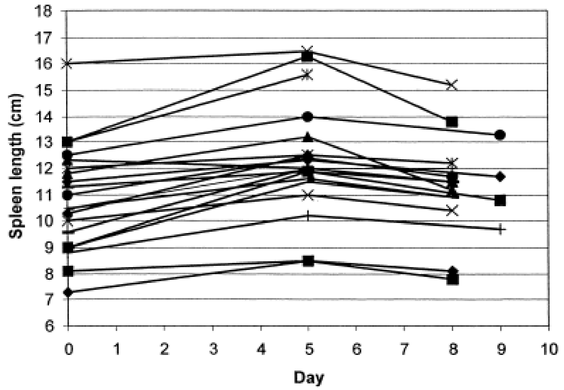

Figure 1. Spleen length in individuals measured before administering g-csf and at day 5, day 8 and day 9 after administration. Spleen size was temporarily increased in 19 of the 20 individuals in the study.

- We report a case of a patient who developed splenic capsular tear after surgery for excision of a malignant abdominal neoplasm.

CASE DESCRIPTION:

- 65 y.o. female seen for surgical removal of a chemotherapy-resistant malignant mucinous ovarian tumor by laparotomy with hysterectomy and b/l salpingo-oophrectomy
- She had received pegfilgrastim prior to surgical debulking.

Pre-procedure for laparotomy:

- Vitals: WNL, Hgb: 11.2 gm/dl.

Initial procedure:

- Surgery was uneventful with an intraoperative EBL of 150 mL, and she was extubated in stable condition.

Post-procedure:

- She subsequently developed profound hypotension; started on vasopressin and norepinephrine, but remained hypotensive.
- Postoperative Hgb of 5.4 gm/dl.
- She was given 8 units pRBCs and mass transfusion protocol was initiated.

Exploratory Laparotomy take back:

- She was found to have a 1 cm capsular tear at the inferior pole of the spleen unlikely related to the initial tumor removal.
- The splenic tear was repaired and she recovered on the surgical floor without need for further pressor support.
- The patient recovered well from her procedures and was discharged from the hospital on postoperative day 9.
- She continues to do well, and is currently being treated with chemotherapy which her cancer is responding to since the debulking surgery.

CONCLUSION:

- Splenic injury should be considered in the differential for postoperative hypotension when there is a precipitous drop in hemoglobin after an uneventful surgical procedure in patients receiving pegfilgrastim and other G-CSF therapy.
- Prior to surgical treatment of a patient receiving G-CSF like medications, patients could likely benefit from close splenic surveillance via ultrasound measurements. It is unclear whether the splenic size changes are temporary or lasting, but if temporary, it may be prudent to postpone any surgery that is not emergent or time sensitive. This could allow for splenic monitoring prior to elective operations.

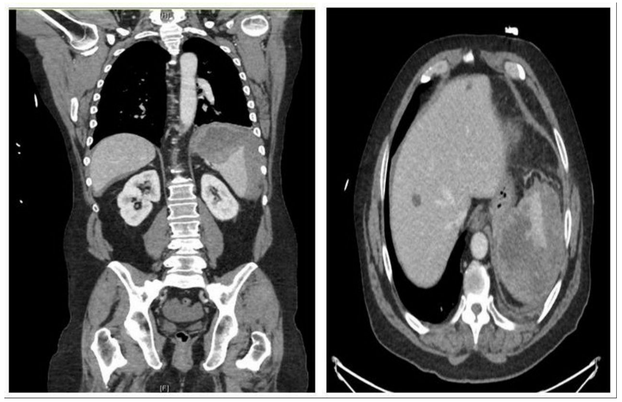

Figure 2. Spontaneous splenic rupture seen on CT of a patient after receiving pegfilgrastim. The spleen is noted to be significantly enlarged, and has areas of hemorrhage noted.

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