SPLENECTOMY IN A TRAUMA PATIENT WITH VON WILLEBRAND DISEASE AND ITP. HEMOSTATIC CHALLENGES, PERIOPERATIVE RESUSCITATION, RESOURCE ALLOCATION AND CHALLENGES OF MANAGEMENT IN A REGIONAL L1 CENTER

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Background

- Trauma induced coagulopathy presents significant challenges in caring for this patient population.
- Further complicating management of coagulopathy in trauma patients are those with underlying bleeding disorders.

Case Presentation

Patient is a 44 year-old male with a known history of von Willebrand's disease, reported ITP, was brought to the emergency room as a level 1 trauma activation after being found down in his home, 3 hours after being involved in a motorcycle crash. He arrived in the trauma bay hypotensive and tachycardic, with a GCS of 14, and a positive FAST exam.

Clinical Course

The patient was taken emergently to the OR exploratory laparotomy and MTP was initiated. Exploratory laparotomy was performed, with evacuation of large volume hemoperitoneum. There was active bleeding from the spleen, and a splenectomy was performed. Patient received a total of 6 pRBC, 6 FFP, 2 6-pk platelets, 1 cryo, 1 DDAVP, 2 doses of vWF/factor VIII, intraoperatively. Blood pressure responded well and patient was no longer requiring pressors. Shortly after arriving to the ICU, the open abdomen negative pressure therapy dressing had increasing bloody output, and patient became hypotensive despite reinitiating of blood products. Bedside re-exploration was performed, with evacuation of hematoma, and suture ligation of the splenic artery. The abdomen was packed with lap sponges and combat gauze, and open abdomen negative pressure therapy was re-placed.

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Clinical Course (continued)

Patient received an additional 6 pRBC, 6 FFP, 3 6-pk of platelets, and 2 cryoprecipitate, and blood pressure normalized. Later that night, patient had a CT scan, which showed active extravasation in the splenic bed. He was taken to IR for angiogram, which showed the splenic artery stump filling via collaterals. The splenic artery was successfully coil embolized. The patient was taken back to the operating room for re-exploration. No active bleeding was noted. Multiple hemostatic agents were placed in the splenic bed, a Blake drain was placed, and the abdomen was closed. The patient progressed well clinically. He remained hemodynamically appropriate; his chest tubes were removed, tolerating a regular diet, and he was discharged home.

Image

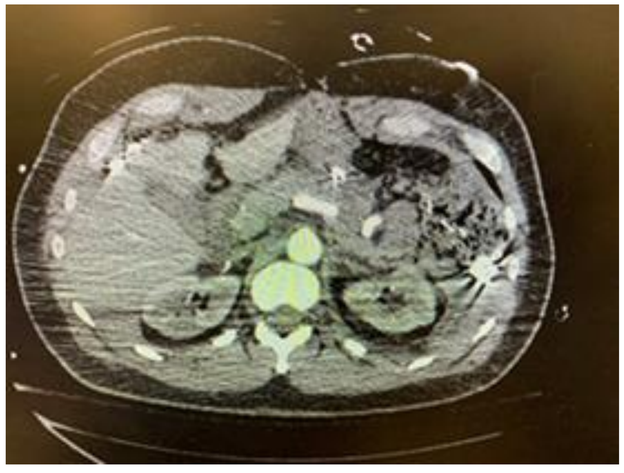

Fig 1. Cross sectional imaging.
CTA revealing splenic arterial extravasation.

Discussion

- Perioperative considerations are essential in minimizing bleeding risk postoperatively
- Deficiencies and defects in von Willebrand's factor leads to clinically relevant bleeding disorders collectively known as von Willebrand's disease
- Immune thrombocytopenia purpura is often a result antiplatelet autoantibodies resulting in a low platelet count, purpura and episodic hemorrhage.
- Bleeding can be mitigated with resuscitation that includes vWF, especially in trauma with vWD.
- Close monitoring is recommended 7-14 days, until bleeding risk abates.
- Splenectomy is the definitive treatment for ITP refractory to medical therapy.
- Perioperative considerations and risk stratification are essential for preoperative management of patients with vWD and ITP.

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