PORTOMESENTERIC THROMBOSIS AFTER ROBOTIC SLEEVE GASTRECTOMY

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Background

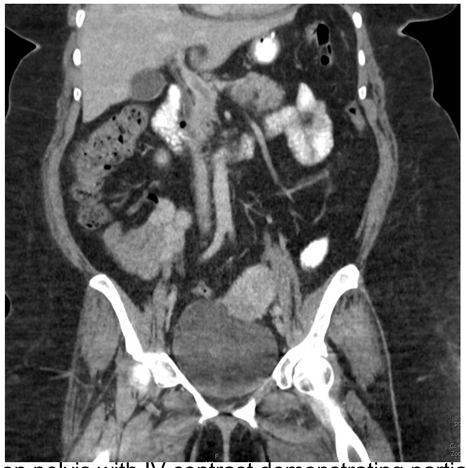
- Bariatric surgery has become an increasingly utilized and efficient treatment modality for our enlarging morbidly obese population.
- Despite the many health benefits of bariatric surgery, the overall incidence of complications is reported to be as high as 7%.[1]
- Of these complications, venous thromboembolism (VTE) is a leading cause of morbidity and mortality due to inherent risk factors as well as the prothrombotic effects of abdominal surgery.[2]

Introduction

- Portomesenteric thrombosis is an important but rarely reported complication following bariatric surgery.
- It has been suggested that the incidence of portal vein thrombosis is directly related to many risk factors inherent in the bariatric population as well as factors related to local and systemic effects of laparoscopic surgery.
- Possible etiologies vary from systemic inherited hypercoagulable states to a direct inflammatory reaction of portosystemic vessels.

Case Description

We present a 47-year-old female who underwent a robotic sleeve gastrectomy (RSG) with an immediate uneventful postoperative course. On postoperative day 1, the patient was discharge home on Aspirin 81mg as per protocol. On postoperative day 12, she presented with left-sided sharp abdominal pain and fever. She was subsequently diagnosed with main portal vein thrombosis, as well as complete right intrahepatic portal vein and splenic vein thrombosis. Hypercoagulable work-up ultimately demonstrated a compound mutation of the methylenetetrahydrofolate reductase (MTHFR) C677T and A1298C alleles. Our patient was prescribed apixaban for six months. She remains asymptomatic, has been compliant with nutrition follow up, and has been tolerating a regular diet well with an overall 25-pound weight loss at her six-month follow-up appointment.



CT scan abdomen pelvis with IV contrast demonstrating partial main portal vein thrombosis and complete thrombosis of the intrahepatic right portal vein

Discussion

Nearly 900,000 VTE events occur in the United States yearly making this an important cause of preventable deaths in patients.[2] Portomesenteric vein thrombosis (PMVT) is a rare but potentially lethal complication following bariatric surgery. It has been suggested that the incidence of PMVT may be directly related to the inherent risk of obesity as well as factors related to the local and systemic effects of laparoscopic surgery. Furthermore, robotic surgery may expose patients to additional risk factors for PMVT. One proposed mechanism is unintentional retraction of the pancreas and the retroperitoneum by robotic arms, resulting in splenic vein thrombosis. The diagnosis of postoperative PMVT can be challenging, as the presentation can be quite variable. A hypercoagulable work-up may identify one of several possible abnormalities in blood coagulation, such as the MTHFR mutation in our patient. Management of PMVT is dictated by the risk factors and the severity of the thrombosis.

Conclusion

The bariatric population is particularly vulnerable to as obesity serves as an independent risk factor for VTE; bariatric surgery, therefore, takes an already at-risk individual and exposes them to the risks associated with major surgery, general anesthesia, and relative immobility.

Thrombotic events involving the portal venous system, while rare, can be potentially lethal. Prolonged postoperative VTE prophylaxis should be considered in patients with risk factors such as previous VTE, advanced age, relative immobility, malignancy, tobacco use, oral contraceptive agents, and
coagulation disorders