Portomesenteric Vein Thrombosis in Laparoscopic Gastric Bypass: Case Report in High Volume Bariatric Center

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Introduction:
Portomesenteric vein thrombosis(PMVT) is a rare complication of bariatric surgery, with an incidence stated anywhere from 0.3 to 1%(1), most commonly associated with sleeve gastrectomy. In a large volume bariatric practice, we present a case report of a PMVT after a primary laparoscopic gastric bypass in order to add to the growing literature on this life-threatening complication of bariatric surgery.

Case Report:
This is a 48 year old female, non smoker, with a BMI of 42, gastro-esophageal reflux disease, obstructive sleep apnea, iron deficiency, Vitamin B12 and D deficiency, and osteoarthritis, who underwent a routine primary laparoscopic gastric bypass. Pertinent history included concurrent oral contraception use, no family or personal history of clotting disorders, and no complications after her previous tubal ligation and breast reduction surgery. Post-operatively, she had an unremarkable course, and met discharge criteria on postoperative day 2. On postoperative day 7, she returned to the emergency department, presenting with right sided abdominal pain, with no other associated symptoms, and found to have a superior mesenteric vein thrombosis and mild edema in the small bowel mesentery without thickening or dilation(Image 1). Given her clinical stable presentation, she was managed conservatively with anticoagulation and bowel rest. Hematologic work-up relieved an isolated elevated ANA titer, but no other identifiable cause other than recent surgery. She was managed with oral anticoagulation post-discharge



Image 1. CT Abdomen/Pelvis Coronal Axis.
Evidence of Portomesenteric venous thrombosis, with some small bowel mesenteric edema.

Discussion:
Portomesenteric Vein Thrombrosis is an exceedingly rare post-bariatric surgery complication. Patients may present with vague abdominal symptoms, making diagnosis challenging. Imaging studies, such as CT with specific contrast phases, are crucial in the diagnosis. Our case highlights the importance of considering PMVT as a differential diagnosis in post-operative bariatric patients that represent with vague abdominal pain.

Conclusion:
Little is known about the risk factors or pathophysiology of PMVT in the perioperative bariatric patient. This case illustrates the need for further studies in determining which bariatric patients are at risk for PMVT and how to prevent this life threatening complication.

References
Salinas J, Barros D, Salgado N, Viscido G, Funke R, Pérez G, Pimentel F, Boza C. Portomesenteric vein thrombosis after laparoscopic sleeve gastrectomy. Surg Endosc. 2014 Apr;28(4):1083-9. doi: 10.1007/s00464-013-3055-8. Epub 2014 Feb 26. PMID: 24570009.
Tan SBM, Greenslade J, Martin D, Talbot M, Loi K, Hopkins G. Portomesenteric vein thrombosis in sleeve gastrectomy: a 10-year review. Surg Obes Relat Dis. 2018;14(3):271-275. doi:10.1016/j.soard.2017.12.010
Akmatov MK, Röber N, Ahrens W, Flesch-Janys D, Fricke J, Greiser H, Günther K, Kaaks R, Kemmling Y, Krone B, Linseisen J, Meisinger C, Moebus S, Obi N, Guzman CA, Conrad K, Pessler F. Anti-nuclear autoantibodies in the general German population: prevalence and lack of association with selected cardiovascular and metabolic disorders-findings of a multicenter population-based study. Arthritis Res Ther. 2017 Jun 6;19(1):127. doi: 10.1186/s13075-017-1338-5. PMID: 28587625; PMCID: PMC5461675.
Intagliata NM, Caldwell SH, Tripodi A. Diagnosis, development, and treatment of portal vein thrombosis in patients with and without cirrhosis. Gastroenterology. 2019;156(6). doi:10.1053/j.gastro.2019.01.265
EASL Clinical Practice Guidelines: Vascular Diseases of the liver. Journal of Hepatology. 2016;64(1):179-202. doi:10.1016/j.jhep.2015.07.040
Galli M, Gianni M, Ageno W, Dentali F. Inherited thrombophilic abnormalities and risk of portal vein thrombosis. Thrombosis and Haemostasis. 2008;99(04):675-682. doi:10.1160/th07-08-0526

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