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Case Report

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# Superior mesenteric vein thrombosis: A rare cause of painless diarrhea

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## Abstract

Superior Mesenteric Vein (SMV) Thrombosis is a rare disease entity. Patients can develop life-threatening complications including hemorrhagic shock or intestinal infarction, but if it is found early, it is treatable and potentially reversible. We present a case of a 56-year-old woman admitted with chronic diarrhea, who was found to have non-occlusive SMV thrombosis.

A 56-year-old female presented to our hospital with complaints of fever and diarrhea. She had been recently diagnosed with Diffuse B-Cell Lymphoma and was on Rituximab, Cyclophosphamide, Doxorubicin, Vincristine and Prednisone (R-CHOP) chemotherapy; her last dose was two weeks prior to admission. Four weeks earlier, she developed non-bloody, non-foul smelling diarrhea without abdominal pain. Her diarrhea did not improve, even after discontinuing all medications with this potential side effect. She had an unremarkable upper endoscopy. Infectious workup including stool studies was unrevealing. She did not improve with empiric antibiotic therapy. A computerized tomography (CT) scan of the abdomen and pelvis showed decreased lymphadenopathy, and a new SMV thrombus. She was started on anticoagulation therapy with enoxaparin and her symptoms improved in next few days, with complete resolution after two weeks.

SMV Thrombosis is a rare condition that can cause an array of symptoms, including diarrhea. The mechanism by which it causes diarrhea is thought to be related to ion channel dysfunction and secretory diarrhea. SMV Thrombosis can be treated surgically or with anticoagulation. If left untreated, it can progress to bowel infarction and death. For this reason, it should be considered in patients with chronic diarrhea with a hypercoagulable state and should be evaluated with appropriate imaging.

## Background

Superior Mesenteric Vein (SMV) thrombosis is a rare disease entity that can result in life-threatening complications including hemorrhagic shock or intestinal infarction, but if discovered early, is treatable and potentially reversible. We present a case of a 56-year-old woman admitted with chronic diarrhea, who was found to have non-occlusive SMV thrombosis.

## Case

A 56-year-old female presented to our hospital with complaints of fever and diarrhea. Her past medical history included type 1 diabetes mellitus, end-stage renal disease (ESRD), renal and pancreas transplant with subsequent pancreatectomy, requiring enzyme replacement. She was receiving Rituximab, Cyclophosphamide, Doxorubicin, Vincristine and Prednisone (R-CHOP) chemotherapy for recently diagnosed Diffuse B-Cell Lymphoma, with her last dose two weeks prior to presentation. Four weeks earlier, she developed non-bloody, non-foul smelling diarrhea without abdominal pain and developed fever one week prior to admission. A recent positron emission tomography (PET) scan showed significant intra-abdominal and retroperitoneal lymphadenopathy, without uptake in the gastrointestinal tract and an unremarkable upper endoscopy. All medications with the potential to cause diarrhea were discontinued without improvement. Upon admission, she was afebrile with a benign abdominal exam. Systemic infectious workup was unrevealing. Stool studies including clostridium difficile PCR, ova and parasites, gram stain, fecal fat, stool pH, and stool cultures were also negative. She did not improve with empiric antibiotic therapy. A computerized tomography (CT) scan of the abdomen and pelvis showed decreased lymphadenopathy and a Superior Mesenteric Vein thrombosis. She was started on therapeutic anticoagulation; her symptoms improved with complete resolution of diarrhea after two weeks.

## Discussion

SMV Thrombosis is a rare condition that can cause an array of symptoms, from severe pain to diarrhea [1]. The mechanism by which it causes diarrhea is thought to be related to bowel wall edema leading to vascular congestion from impaired venous drainage. In turn, this causes ion channel dysfunction and secretory diarrhea [2,3].

SMV Thrombosis can be treated surgically or with anticoagulation. However, with improved imaging techniques and increasing use of anticoagulation the prognosis of this condition has improved [1,3,4]. While mesenteric arterial thrombosis results from arrhythmia and cardiac etiologies, mesenteric venous thrombosis is overwhelmingly associated with hypercoagulable states, stasis and local factors which lead to vessel wall injury [3]. These include both inherited

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and acquired hypercoagulable conditions, including patients taking oral contraceptives, pregnant or postpartum women, or those with malignancies [5]. If left untreated, it can progress to bowel infarction and death, with a mortality rate ranging from 20 to 50% [5,6]. Mesenteric venous thrombosis is found in 0.2% to 2% of patients at autopsy and due to its indescript symptoms, remains difficult to diagnose [1]. Our case highlights the importance of having a high index of suspicion for this disease entity, as early diagnosis and treatment may prevent the devastating sequelae associated with prolonged thrombosis.

## Conclusion

Evaluation for mesenteric venous thrombosis with appropriate abdominal imaging is pivotal to in patients with known hypercoagulable states, such as those with malignancy, after ruling out infectious etiologies in patients with vague abdominal symptoms. Delay in diagnosis and management can lead to increased morbidity and mortality in these complex patients.

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