

Isolated Thrombosis Within A Superior Mesenteric Vein Aneurysm In The Setting of Acute Pancreatitis

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INTRODUCTION

Without involving the splenic or portal vein, isolated thrombosis of the superior mesenteric vein is very rare. However, untreated disease progression can lead to high morbidity and mortality from mesenteric ischemia or bowel infarction. We present a case of isolated thrombosis with a superior mesenteric vein aneurysm in the setting of acute alcoholic pancreatitis.

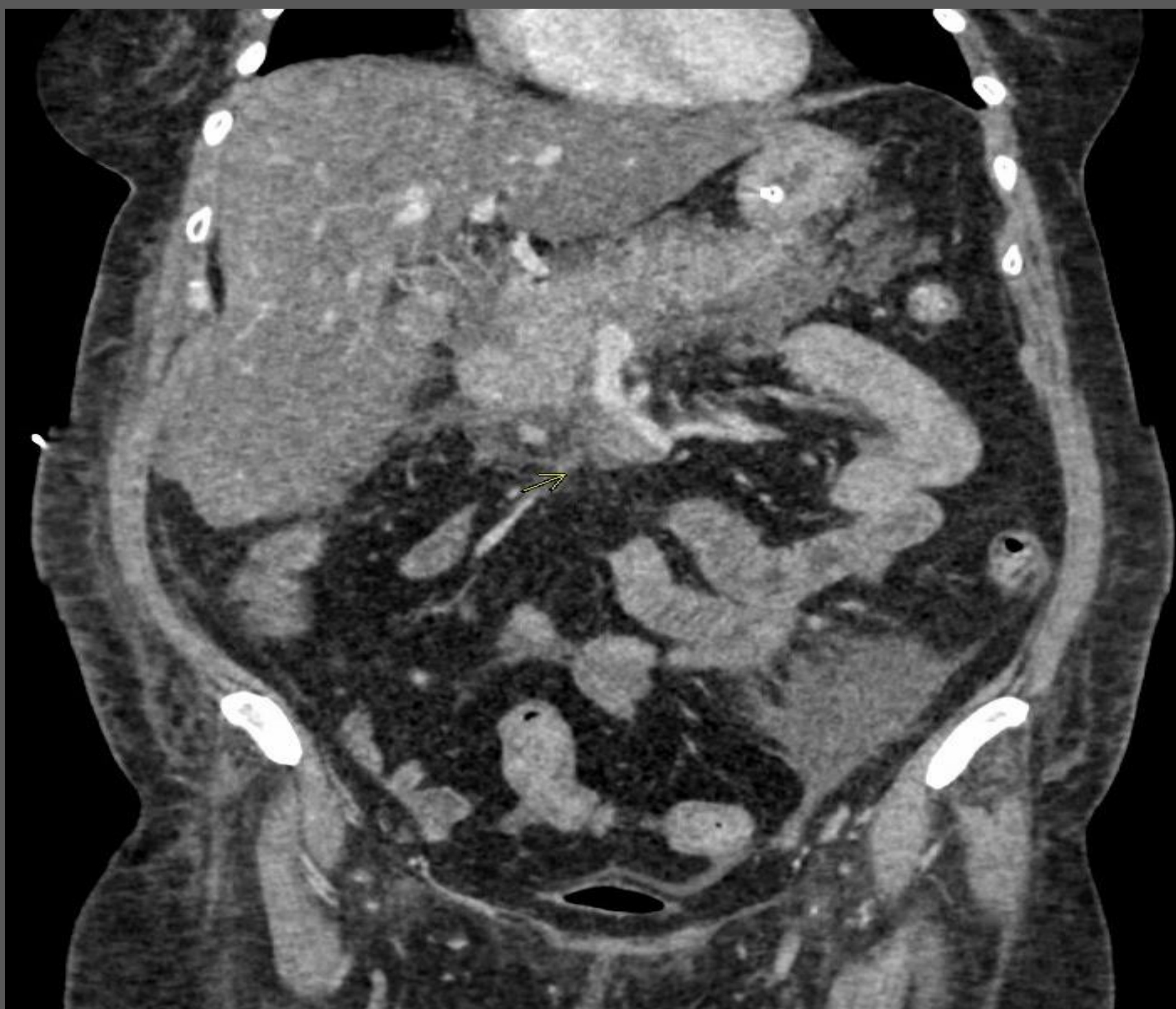


Figure 1. CT Abdomen with contrast

CLINICAL CASE

A 55-year-old female with a medical history of pancreatitis and alcohol abuse presented to the emergency department for acute nausea with diffuse abdominal pain. Laboratory testing demonstrated lipase elevation 7130 units/L. Initial computed tomography (CT) imaging demonstrated acute interstitial pancreatitis with peripancreatic inflammation and no evidence of necrosis. Patient was treated with conservative measures. However, after 5 days, patient developed new fevers and worsening abdominal pain prompting repeat imaging. CT demonstrated new superior mesenteric venous aneurysm measuring 2.7 x 1.7 cm with a thrombosis within the aneurysm measuring 1.6 x 1.9 cm (Figure 2). Through a multi-disciplinary team approach, decision was made to initiate anticoagulation with apixaban, a factor Xa inhibitor. Patient continued to improve with no progression of mesenteric ischemia. Upon discharge, patient continued apixaban for 3 months. Subsequent imaging 6 months later demonstrating complete resolution of venous thrombosis (Figure 3), but continued persistence of the superior mesenteric vein aneurysm.

DISCUSSION

Primary venous aneurysms (PVA) are significantly less common compared to arterial aneurysms with only about 200 total reported cases in the literature. PVAs have a low risk of complications with 88% of patients showing no clinical progression of aneurysm size, or any subsequent complications including: biliary tract obstruction, or duodenal compression. Our patient developed an isolated thrombosis within her PVA. Superior mesenteric vein (SMV) thrombosis is uncommon accounting for 5% of all mesenteric vessel occlusive disease. In our case, the thrombosis likely occurred due to an imbalance between fibrinolysis and coagulation due to a local inflammatory processes in the setting of acute pancreatitis. Within the aneurysm, flow velocities decrease from turbulent flow and loss of endothelial homeostasis allows for activation of pro-inflammatory and pro-coagulant mediators resulting in clot formation. Delayed diagnosis and treatment of SMV thrombosis can lead to fatal complications. Acute treatment is consistent of systemic anticoagulation and close clinical monitoring. Surgical exploration remains for patients developing progressive ischemia and bowel infarctions. Due to the lack of specificity of clinical symptoms, diagnostic accuracy of SMV thrombosis can be challenging. Our case demonstrates primary management with anti-coagulation can lead to favorable outcomes without conversion to hemorrhagic pancreatitis.



Figure 2. CT abdomen demonstrating isolated thrombosis

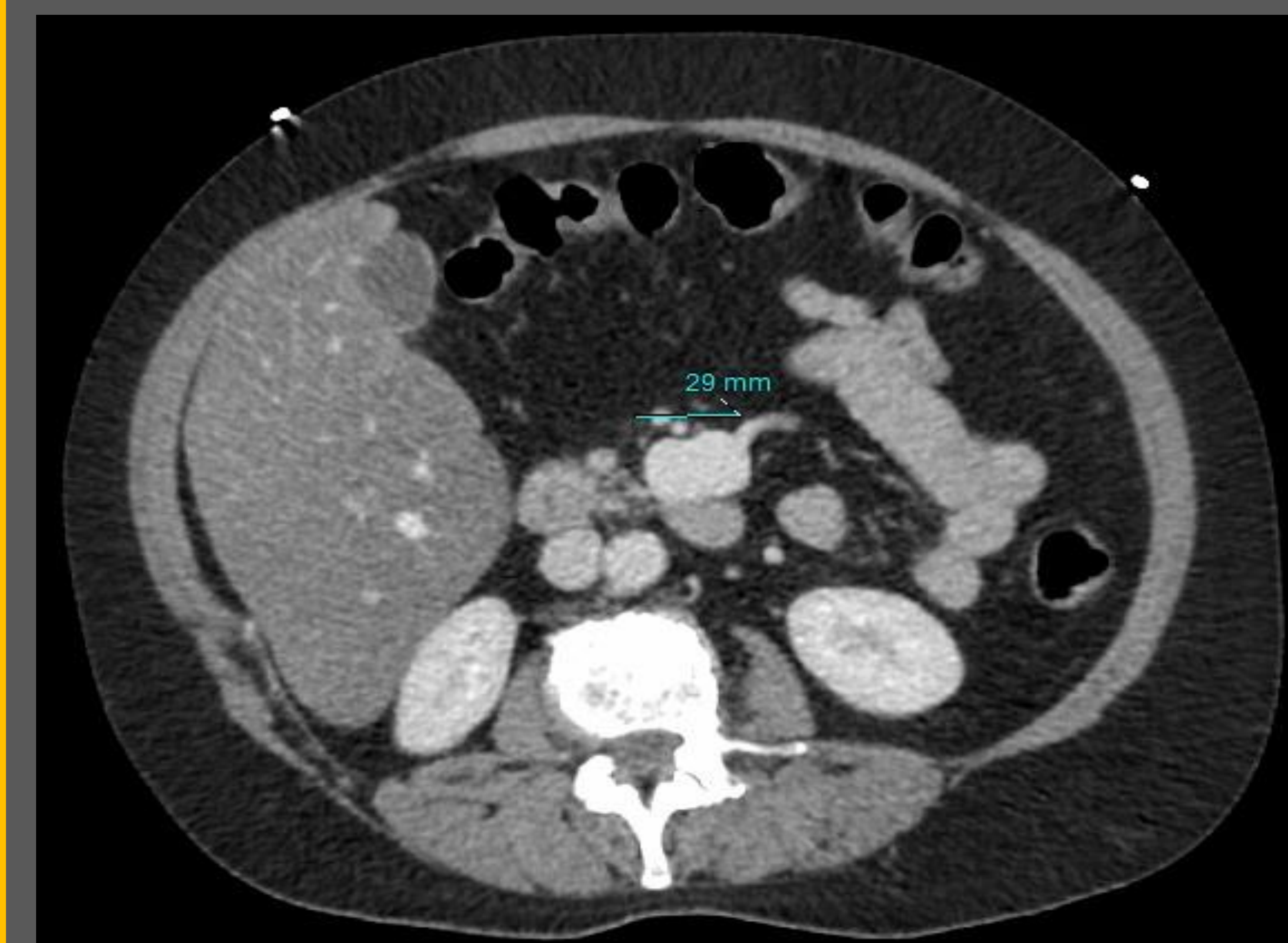


Figure 3. CT abdomen demonstrating SMV aneurysm

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