# Superior Mesenteric Vein Aneurysm Mimicking a Pancreatic Head Mass



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## Abstract

Superior mesenteric vein (SMV) aneurysms are a rare medical entity that are more frequently being identified due to the advancement of abdominal imaging. Some patient's can be asymptomatic while others can have life threatening complications related to SMV aneurysms. Due to SMV aneurysms being infrequently found, there is no standardized treatment or management in the literature. We report a seventy-three year old female who was found to have evidence of a pancreatic head mass on imaging that was found to be a superior mesenteric vein aneurysm.

# Introduction

Superior mesenteric vein (SMV) aneurysms were first described in the literature in 1982. Aneurysms in the portal venous system, which include extrahepatic portal, splenic, and superior mesenteric veins, are rare and represent approximately 3% of all venous aneurysms with a reported prevalence of 0.43%.

#### References

- 1. Kawata, A., Imai, K., Tamura, Y., Kaida, T., Mima, K., Nakagawa, S., Hayashi, H., Yamashita, Y., Ikeda, O., and Baba, H. (2022) Gastrointestinal: Superior mesenteric vein aneurysm treated using interventional radiology. *Journal of Gastroenterology and Hepatology*, https://doi.org/10.1111/jgh.15755.
- 2. Ma, Ruichong et al. "Extra-hepatic portal vein aneurysm: A case report, overview of the literature and suggested management algorithm. Int J Surg Case Rep. 2012;3(11):555-558. doi:10.1016/j.ijscr.2012.07.009
- 3. Gallego C., Velasco M., Marcuello P., Tejedor D., De Campo L., Friera A. Congenital and acquired anomalies of the portal venous system. *Radiographics*. 2002;**22**(1):141–159
- 4. Francesco F., Gruttadauria S., Caruso S., Gridelli B. Huge extrahepatic portal vein aneurysm as a late complication of liver transplantation. *World Journal of Hepatology.* 2010;**2**(5):201–202.
- 5. Rupture Smith TJ, Morehouse DL. Superior mesenteric vein aneurysm rupture. Vasc Endovascular Surg. 2011 Aug;45(6):559-60. doi: 10.1177/1538574411413154. Epub 2011 Jun 29. PMID: 21715423.

Disclosures: None

# Case Report

Our patient is a 73 year old female who was found to have a pancreatic head mass (2x2.4x1.9cm) that was found on imaging for workup of acute abdominal pain (Figure 1). Patient denied any weight loss and LFT's were found to be unremarkable. For further workup, patient had EUS performed which showed evidence of a superior mesenteric aneurysm measuring 2.4 x 2.1 cm that was mimicking as a pancreatic head mass. No further intervention performed. Follow up imaging several years later showed that her aneurysm remained stable in size.



Figure 1

### Discussion

- Etiologies for superior mesenteric aneurysms are not completely understood, but are thought to be from congenital or acquired causes. Of the acquired causes, portal hypertension is considered the most common cause of SMV aneurysm.
- Patient presentation can vary with some patient's being asymptomatic with aneurysm found incidentally on imaging, while others can present with abdominal pain, signs of bleeding, or elevation in LFT's. 1,4
- Complications of SMV aneurysm includes thrombosis, biliary tract obstruction, inferior vena cava obstruction, duodenal compression, and rarely aneurysm rupture (up to 2.2% of cases).<sup>1,2,5</sup>
- Because SMV aneurysms are a rare anomaly, management is not standardized.
- In asymptomatic patient's, conservative management with follow-up imaging to assess aneurysm size is recommended.
- If the patient is symptomatic or has complications of a SMV aneurysm, surgical or interventional radiology intervention may be needed which may include portal venous shunt, aneurysmorrhaphy, stent graft placement and coil embolization. <sup>1-3</sup>