Unrelenting Abdominal Pain after recent initiation of a Direct Oral Anticoagulant: A Cause for Concern

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Question: A 63 year old gentleman presented to the Emergency Department with two weeks of new-onset abdominal pain. His medical history is notable for hypertension, hyperlipidemia, and recently diagnosed atrial fibrillation with initiation of a direct oral anticoagulant (DOAC) three months prior to presentation. The abdominal pain was sharp in quality, constant in nature with waves of intense pain lasting 30-45 minutes every three hours. Pain was located in the periumbilical area radiating to the lower quadrants bilaterally. Pain was not aggravated by oral intake though was associated with anorexia which resulted in a five kilogram weight loss. He denied nausea, vomiting, diarrhea, melena or hematochezia. Physical exam was notable for mild tachycardia (109 bpm), systolic hypertension (150/77), and fever (38.8 C). Abdominal exam was normal except for tenderness with deep palpation in the lower quadrants bilaterally. Initial laboratory data included while blood cell count of 9.2 x 10^9 L, hemoglobin of 9.4 g/dL, platelet count of 330 x 10^9 L, creatinine 0.83 mg/dL, lipase 23 U/L, and otherwise normal comprehensive metabolic panel. Abdominal CT scan with oral contrast revealed a 3.5 x 2.4 cm area of mesenteric inflammatory stranding (Figure A). The patient was admitted for observation overnight and discharged the next day with ibuprofen. He returned to the Emergency Department two days later with worsening abdominal pain. Repeat abdominal CT scan was obtained (Figure B).

What is the diagnosis?

Answer: Spontaneous Superior Mesenteric Artery Pseudoaneursym

A 2.1 x 1.9 cm superior mesenteric artery (SMA) pseudoaneursym surrounded by mesenteric fat stranding was reported in the abdominal CT (Figure B). Interventional radiology performed angiography and successfully coiled the ileal branch of the SMA (Figure C). The patient's abdominal pain resolved after the procedure. Serial abdominal CT angiography one month after the procedure demonstrated a well-positioned coil without contrast in the pseudoaneursym (Figure D).

Visceral artery pseudoaneursyms (VAPAs) are extremely rare vascular lesions that can have life-threating consequences. Branches of the SMA are the third most common VAPA location, preceded by splenic and celiac arteries.[1] VAPAs are frequently associated with trauma, post-operative complications, and inflammatory states, specifically chronic pancreatitis, and rarely found to be spontaneous.[2] As in this case, unrelenting abdominal pain is the most common complaint. Prompt diagnosis with cross sectional imaging and treatment via surgical repair or endovascular therapy is crucial to mitigate risk for poor outcomes due to intra-abdominal hemorrhage related to pseudoaneursym rupture.

To our knowledge, this is the second reported case of a spontaneous SMA pseudoaneursym, and similar the first case, it is associated with recent onset of apixaban administration.[3]

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