

“Suspicious Hematoma Resulting from Rare Superior Rectal Artery Pseudoaneurysm”

Karleigh Curfman, MD, Mieka Shuman, DO, Kimberly Gorman, DNP, RN, AG-ACNP-BC, CNL, CCRN, CNRN, TCRN, Wesley Schrock, MD, Paul Meade, MD



Introduction:

Pseudoaneurysm is a common phenomenon where a perivascular hematoma develops due to disruption of the vascular wall layers, causing a communicating hematoma. Though often seen in other vessels, reports are scarce when involving the Superior Rectal Artery (SRA), for which a history of only seven cases identified. Though some cases were related to traumatic events, and the remaining were caused by unique, varying factors, the presenting symptoms and treatment modalities were strikingly similar and successful. We describe a 79-year-old male on therapeutic anticoagulation, who presented days after a fall with complaints of abdominal pain, constipation, and rectal bleeding. He was diagnosed with a large retroperitoneal hematoma, stabilized, then discharged. It was not until after the patient's second fall four weeks later, when he presented with worsened complaints and hematoma enlargement, that a bleeding SRA Pseudoaneurysm was identified.



Figure 1: Initial CTA Imaging



Figure 2: Return Visit CTA Imaging

Clinical Case:

79-year-old male presented with abdominorectal pain, and bleeding per rectum. He had fallen three to four days prior, and had constipation requiring manual disimpaction. Past medical history included atrial fibrillation on warfarin. He underwent computed tomography angiography (CTA), which showed a large retroperitoneal hematoma from the right abdomen into the pelvis, without active bleeding. Given the large hematoma, his anticoagulation was held, serial abdominal examinations were performed, and hemoglobin (hgb) was trended. Initial hgb was 13.0 gm/dL, but had down trended to 8.5 gm/dL in 24 hours, requiring transfusion of 2 units PRBC and 1 FFP (INR 1.7). Hgb was stable after transfusion for several days when warfarin was resumed, and he was discharged. Four weeks later he returned with similar complaints after another fall. His repeat CTA showed enlargement of the hematoma from 9.0 cm x 4.5 cm to 9.9 cm x 7.4 cm, with active bleed, and likely pseudoaneurysm; hgb stable. He underwent pelvic and Inferior Mesenteric Artery angiograms, where a large blush from the SRA was confirmed. Several attempts to embolize the feeding branch were unsuccessful, and thus coil embolization of the SRA was performed. Following the procedure, the patient's hgb and vital signs were stable, and he was discharged on his home warfarin on post-procedure day 2.

Discussion:

There are several causes of pseudoaneurysm including: infection, inflammation, and trauma. There are significant complications associated with pseudoaneurysms, such as rupture, massive hemorrhage, adjacent structure compression, and infection. Imaging is used to confirm the diagnosis, and the gold standard is conventional angiography; which can also be therapeutic. Recommendations for management include endovascular or open approaches. Prior angiographic interventions resulted in inadvertent dissections and embolization of marginal arteries due to nonsteerable wires. With the development of steerable wires, more appropriate embolization and less risk is seen. Proceeding with surgical intervention, such as resection, ligation, or organ resection, is indicated when angiographic treatment modalities fail or if the patient is hemodynamically unstable. After thorough literature review, there have only been seven other documented cases of this phenomenon. Three cases have been related to trauma and the remaining four were discovered in an atraumatic setting.

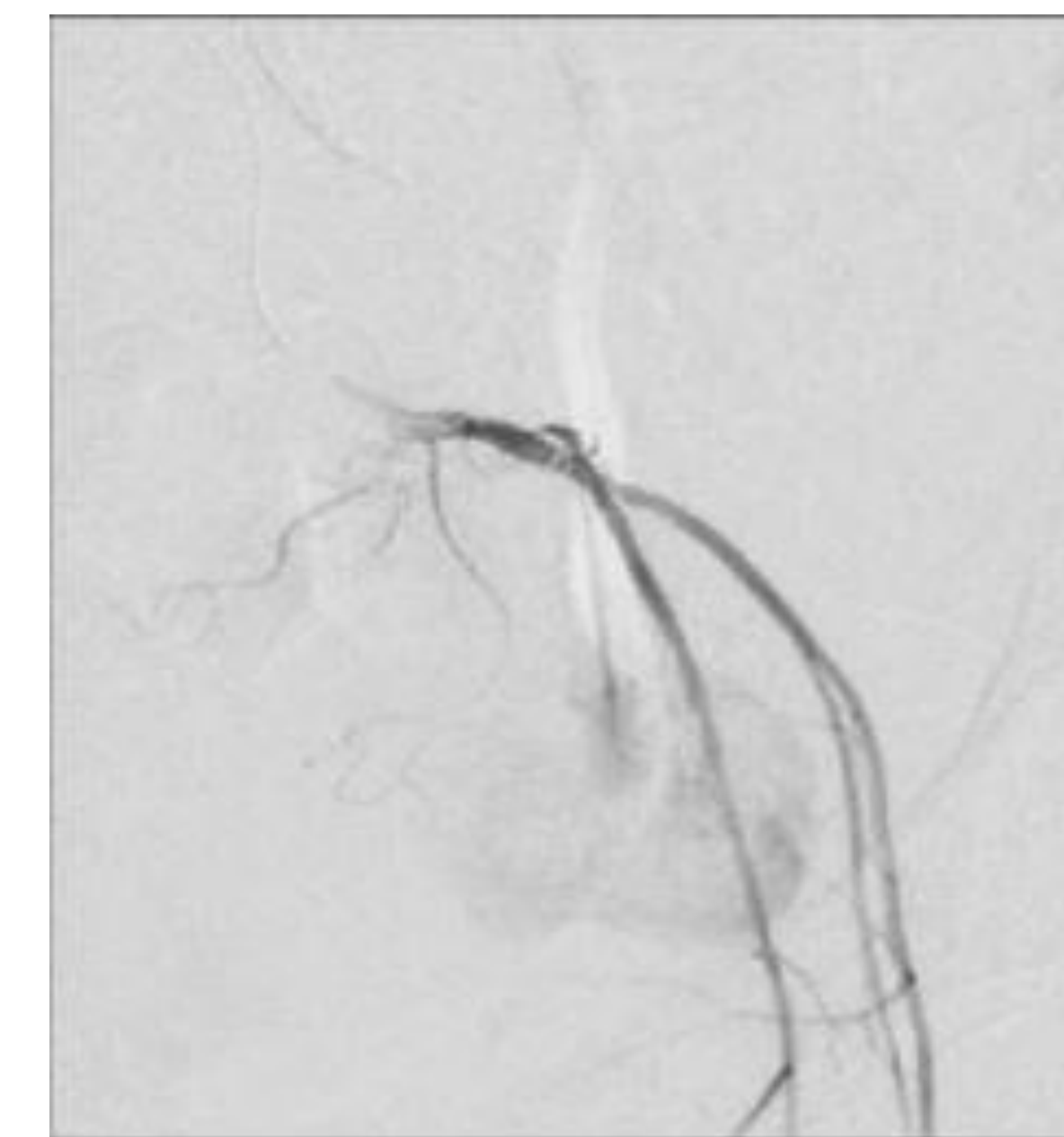


Figure 3: Blush on Angiogram suggestive of SRA Pseudoaneurysm

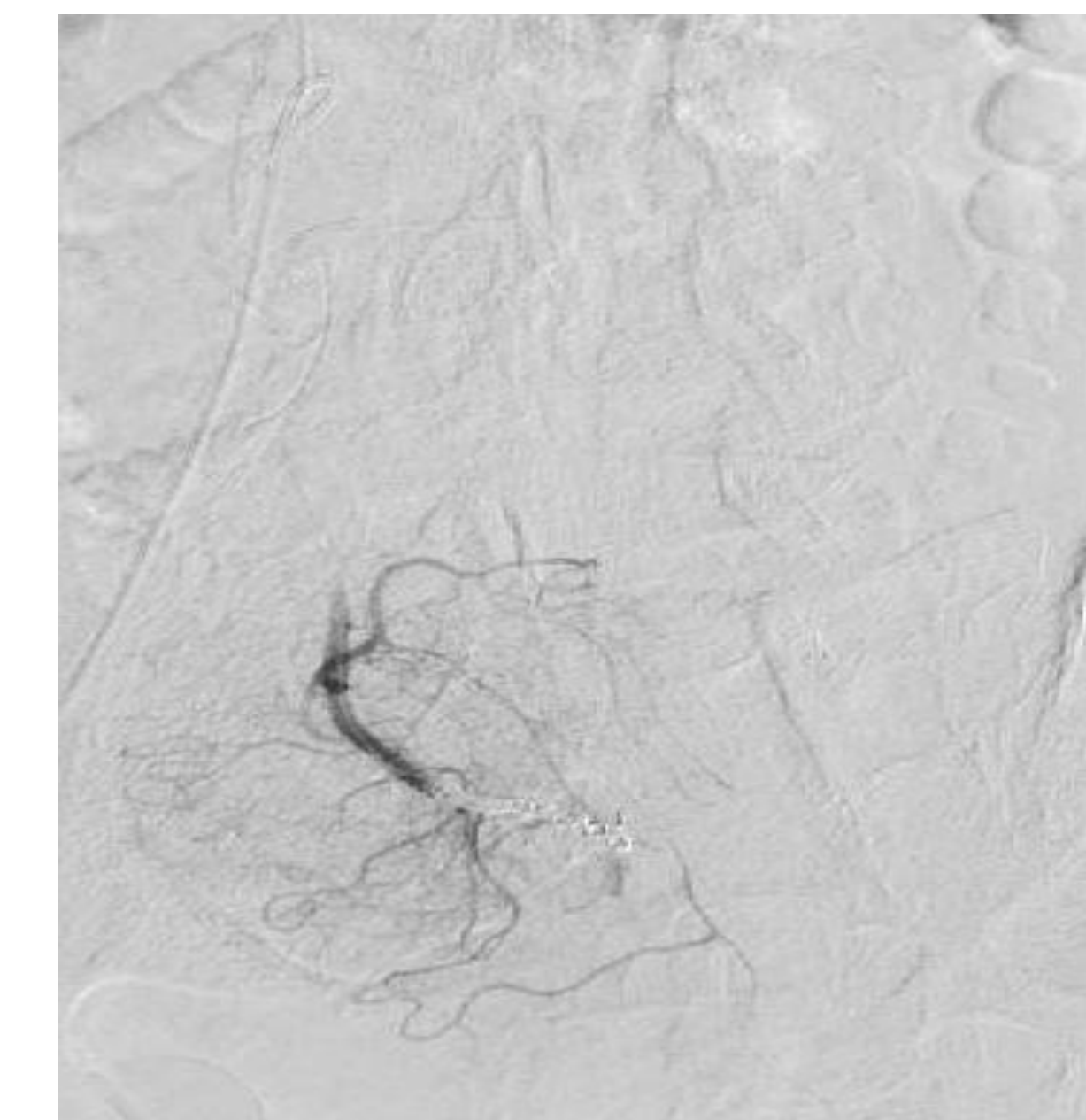


Figure 4: Resolution of blush after coil embolization

One patient presented with bleeding related to clopidogrel use, another with a history of renovascular hypertension, one patient was recognized following malignant tumor erosion into vessel, and the last after bevacizumab use for sigmoid adenocarcinoma. Despite the reported cases having varying causes, their symptoms were similar. Six cases presented with lower gastrointestinal bleeding. The other presented with worsening abdominal pain. In addition, though the causative modalities varied, the management plans followed the stated recommendations. Six cases were safely treated via angiographic embolization, while one report of hemodynamic instability led to initial surgical intervention and angiographic follow up.

Conclusion:

SRA pseudoaneurysms are extremely rare, yet serious entity, with serious consequences. Due to the paucity of reported occurrences, supporting evidence and recommendations are scarce. With seven prior acknowledged cases, management techniques have yielded excellent results with minimal detrimental effects and no mortalities. Given these findings, the success evidenced by angiographic management, and the significant adverse effects that are risked by delaying treatment, we are in agreement with current recommendations and strongly support intervening upon and actively managing SRA pseudoaneurysms without delay.

References available upon request