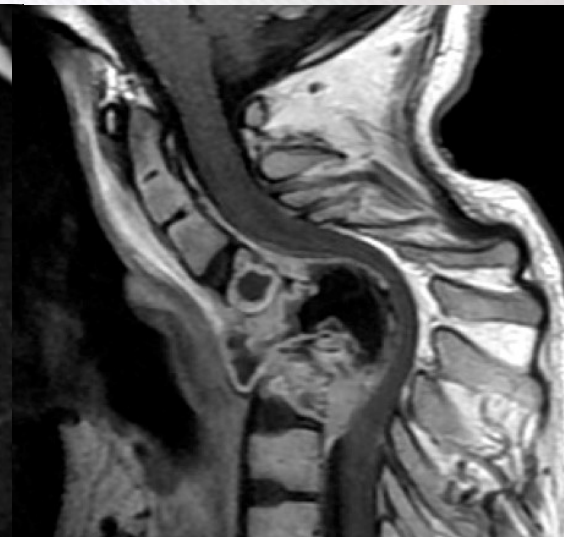
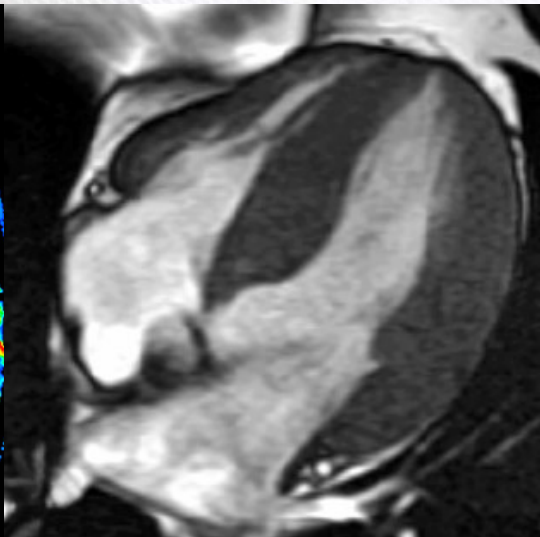
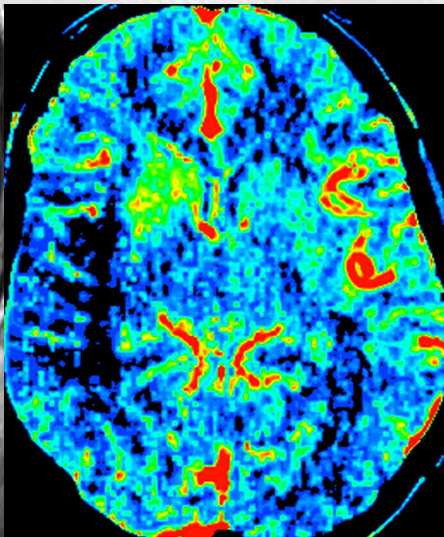


May-Thurner Syndrome: A Rare Presentation

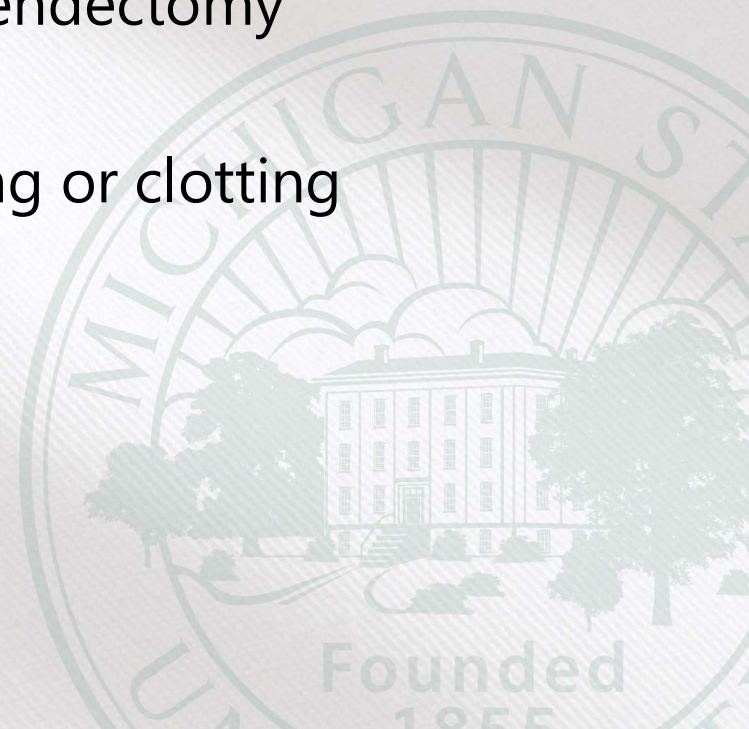
Olivia Everin, MS3
Dr. Christopher Swenson, MD

Michigan State University - College of Human Medicine
Spectrum Health - Division of Interventional Radiology
Advanced Radiology Services, PC



➤ Patient Presentation

- **CC:** Abdominal pain
- **HPI:** 60-year-old female with PMH significant for hypertension presented to the ED following a ground-level fall, altered and with significant abdominal pain.
- **Surgical History:** Hysterectomy, appendectomy
- **Family History:** No history of bleeding or clotting disorders
- **Social History:** Never smoker



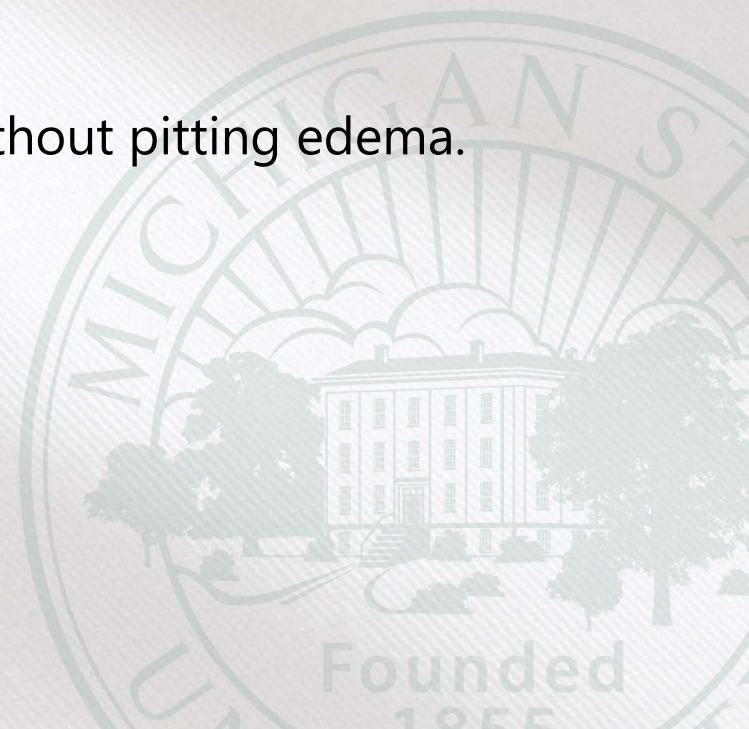
> Patient Presentation

Physical Exam:

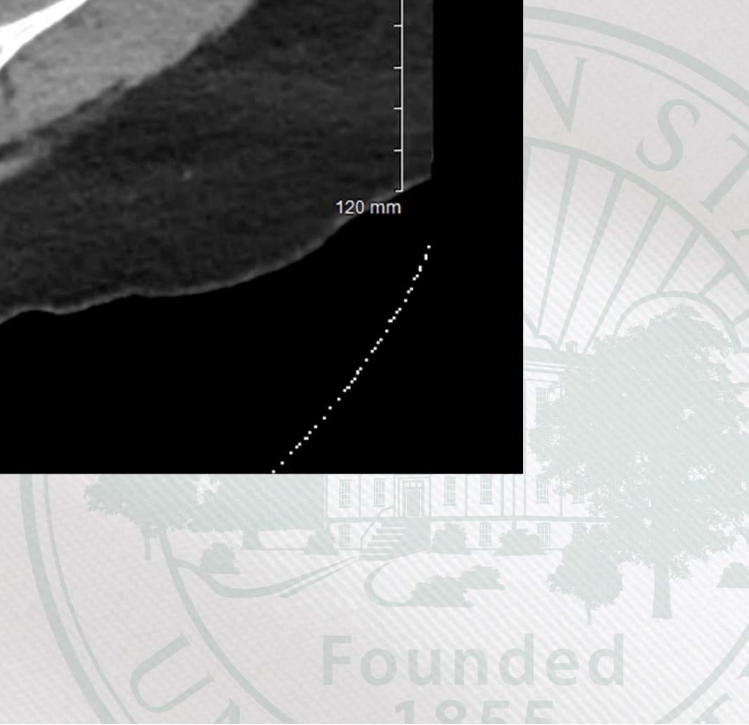
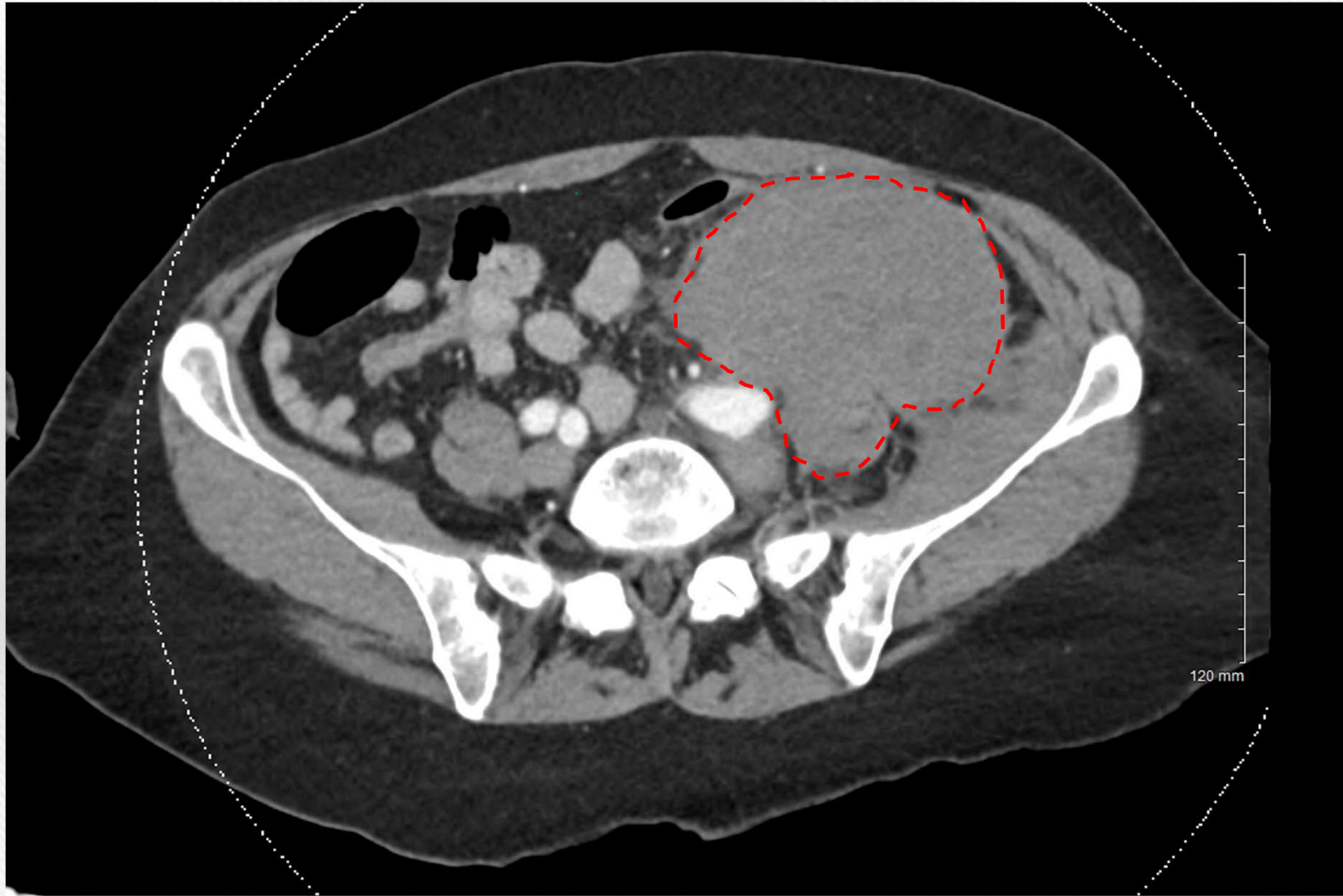
- **Vitals:** BP 114/83, HR 81, T 36.6 C, RR 23, SpO2 96% RA
- **Pulmonary:** Respirations unlabored and symmetrical. Lungs clear to auscultation bilaterally.
- **Cardiovascular:** RRR with no murmurs, rubs, or gallops. No JVD.
- **Abdominal:** Soft, abdominal tenderness to palpation in LLQ and left flank.
- **Extremity:** Left lower extremity swelling, without pitting edema. Left lower extremity cool to touch.

Labs:

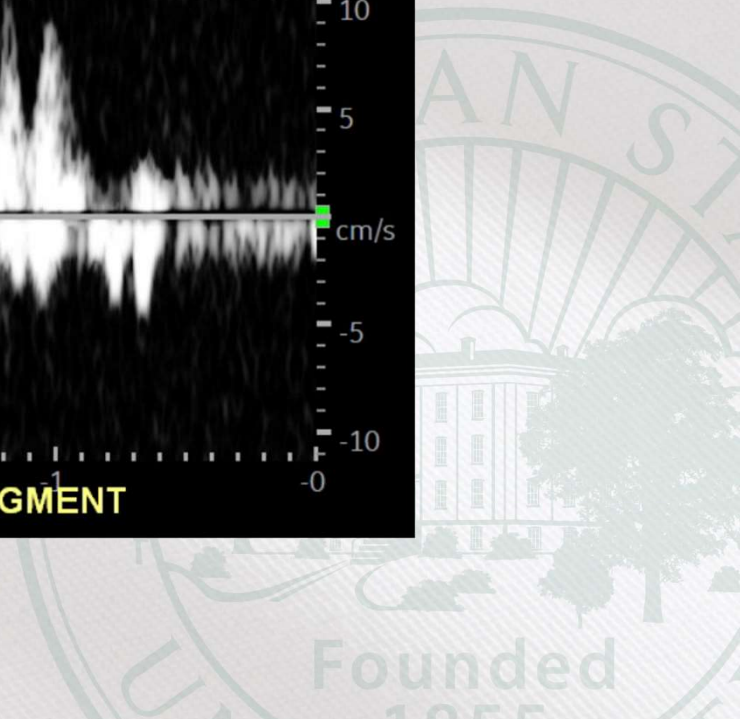
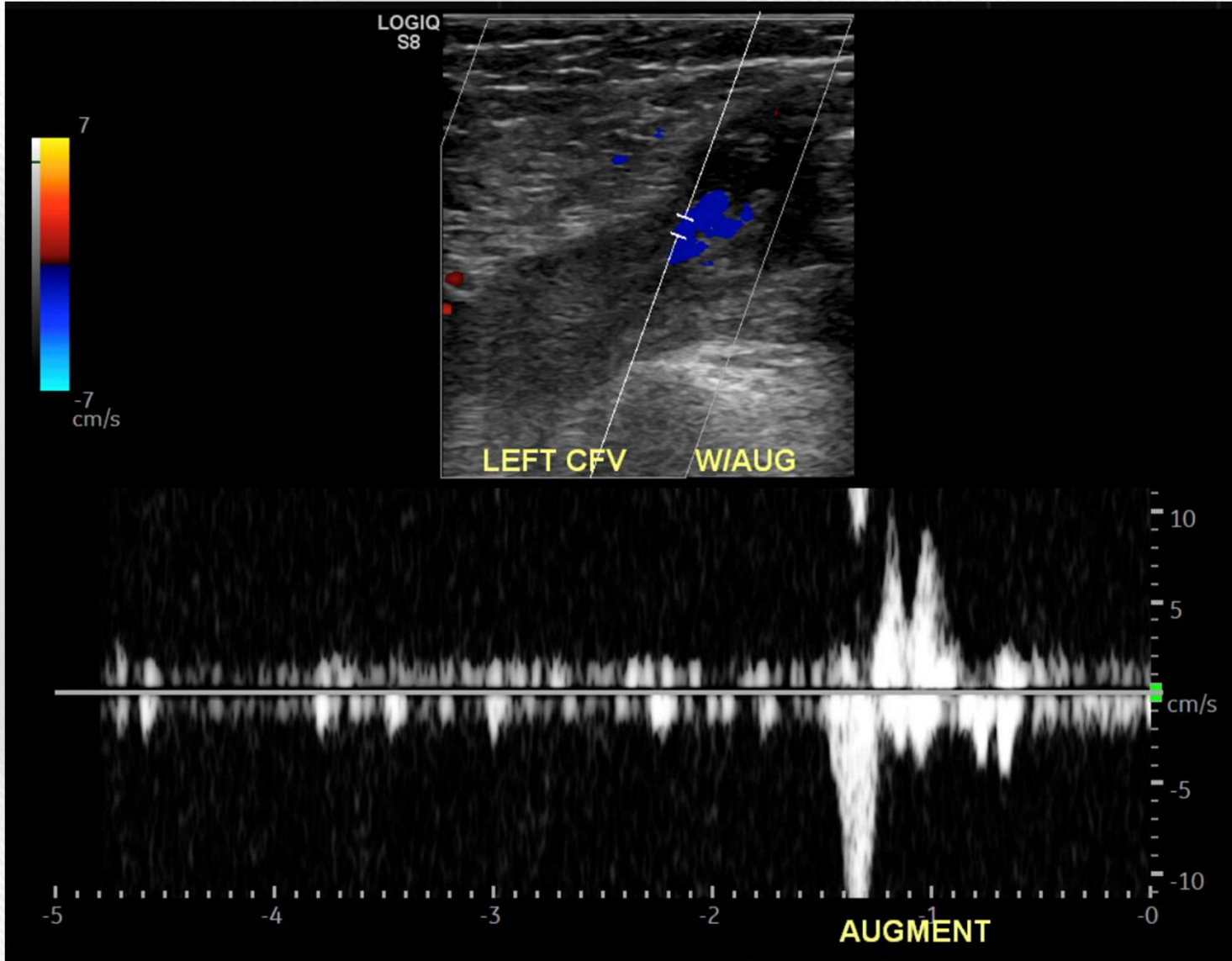
- CBC: Hgb 9.7, WBC 18.53
- Lactic acid: 2.3
- COVID -19 PCR: detected



Initial Imaging



Lower Extremity Ultrasound

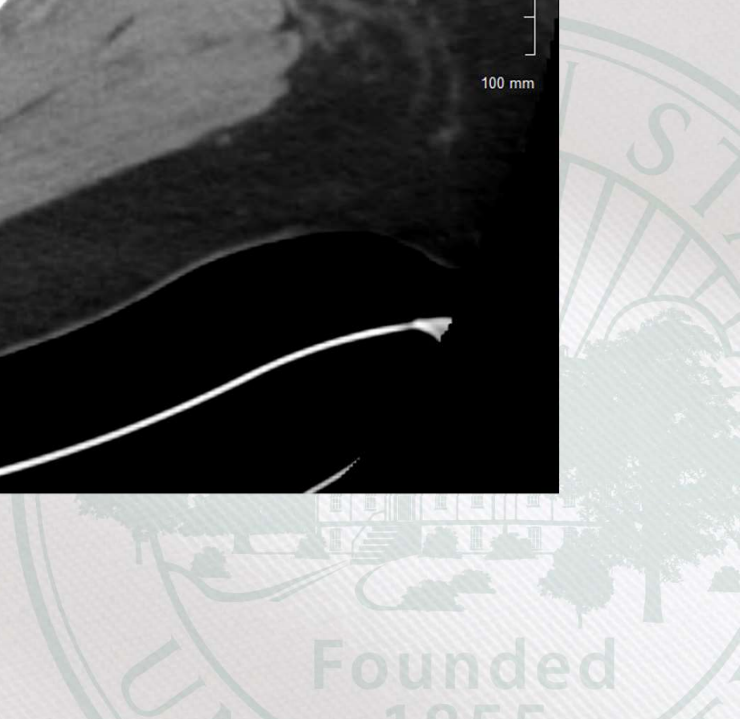
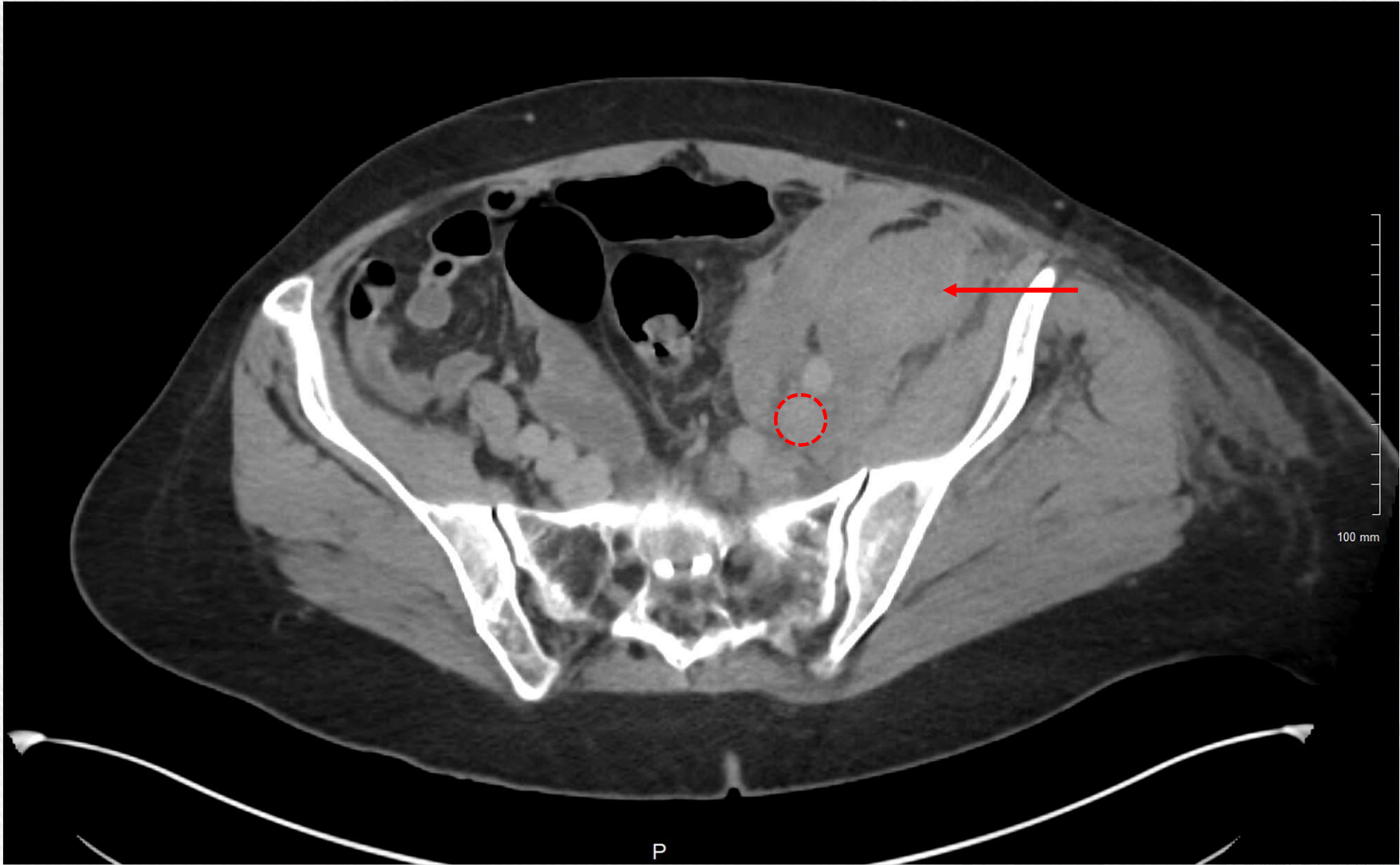


> What Next?

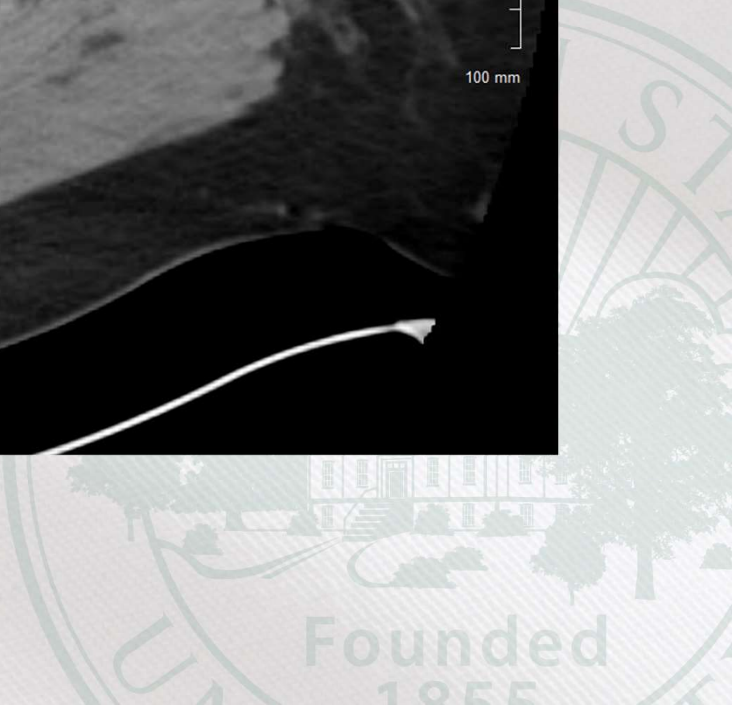
- IR consulted for IVC filter placement given contraindication to anticoagulation
- On POD#2 s/p IVC filter placement there was a 1 g drop in hemoglobin



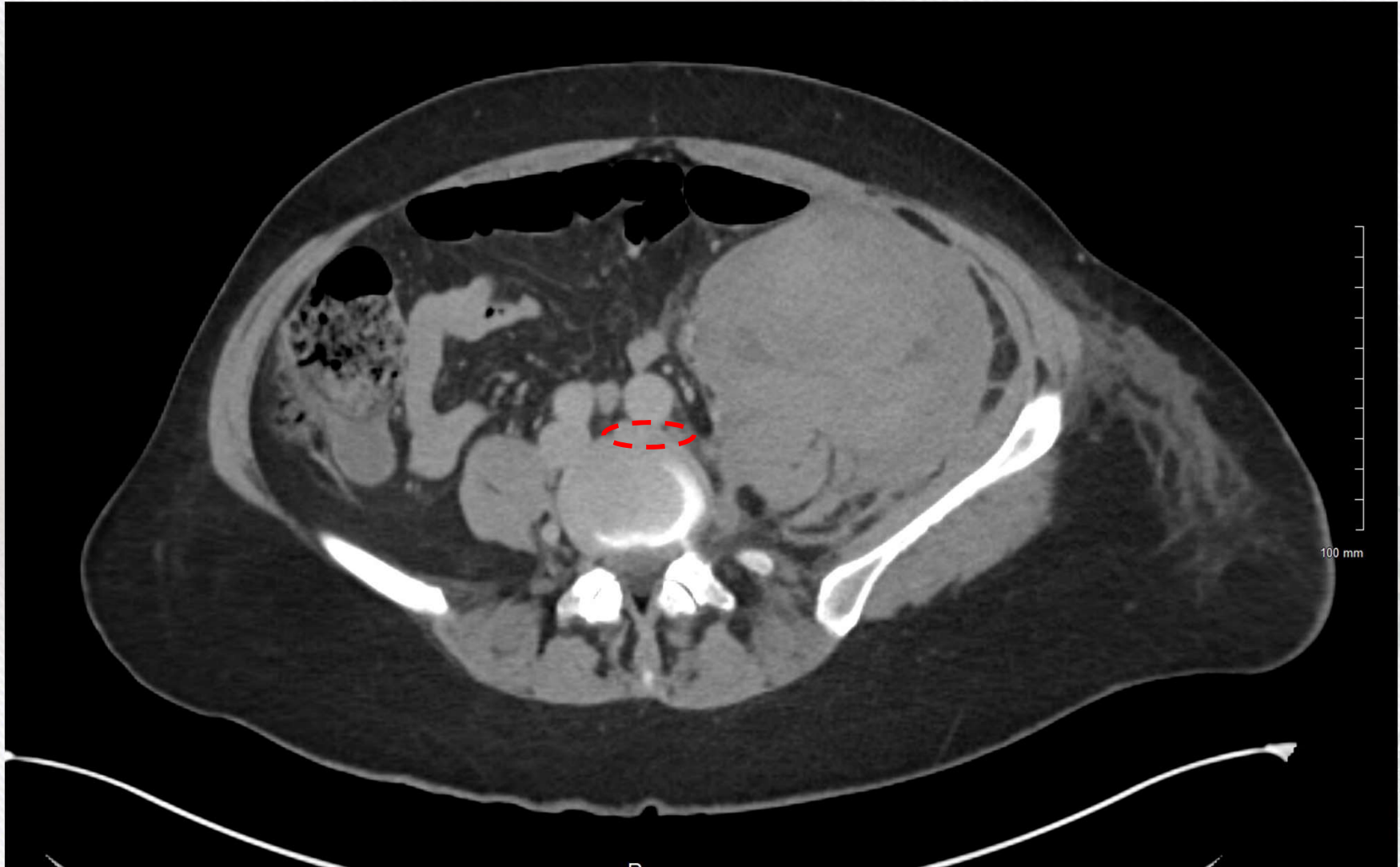
Stat CTA Abdomen and Pelvis



> Ruptured Left External Iliac Vein



> May-Thurner Syndrome



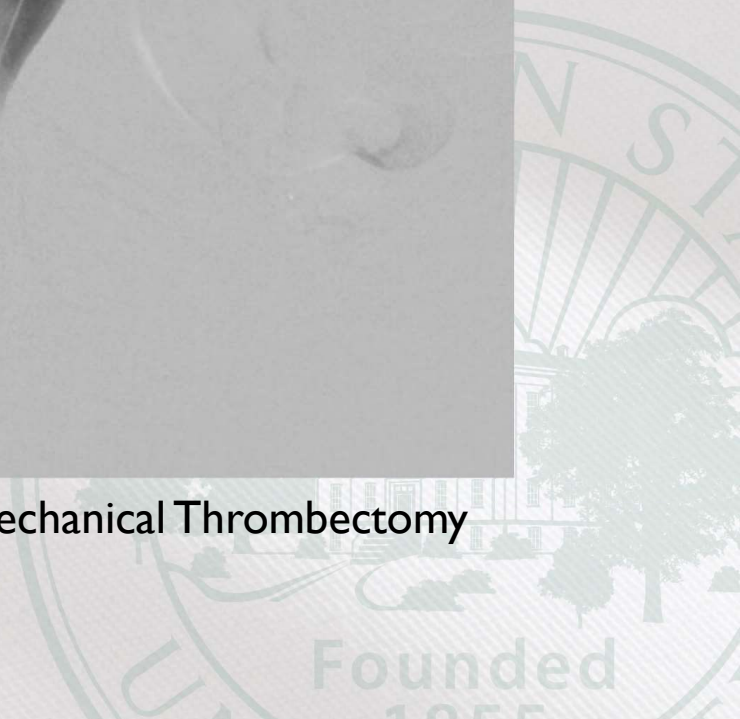
> Venogram



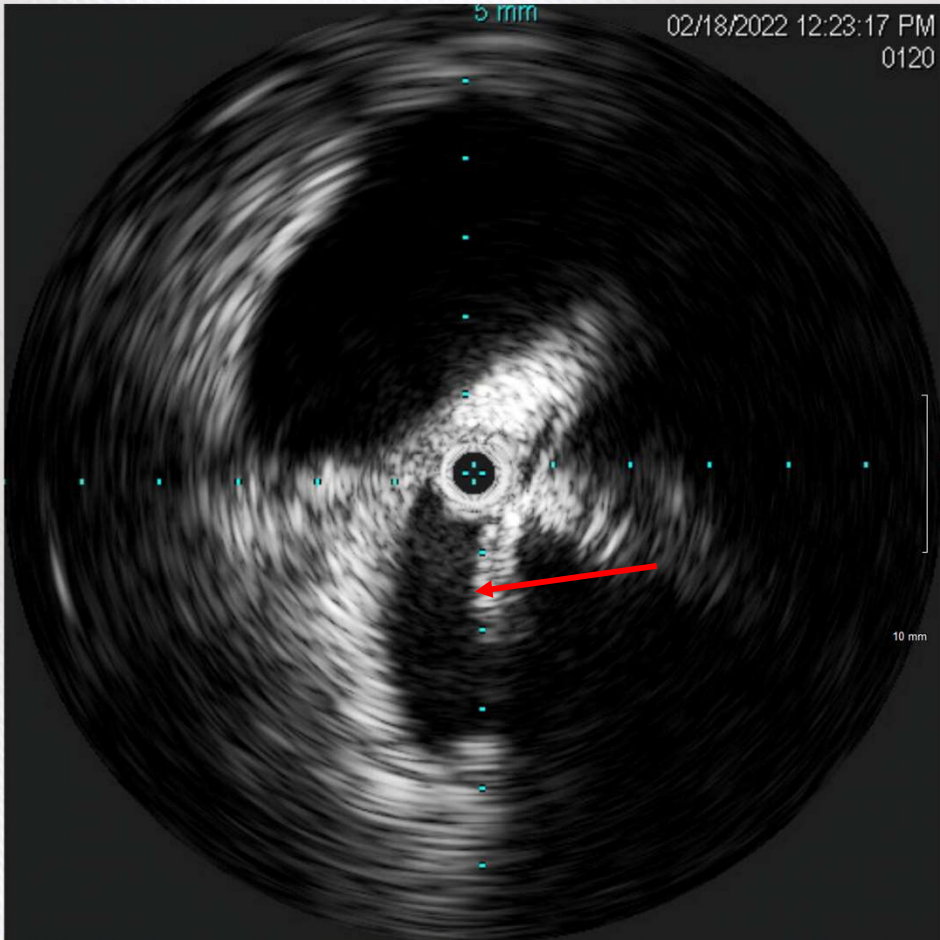
Before Mechanical Thrombectomy



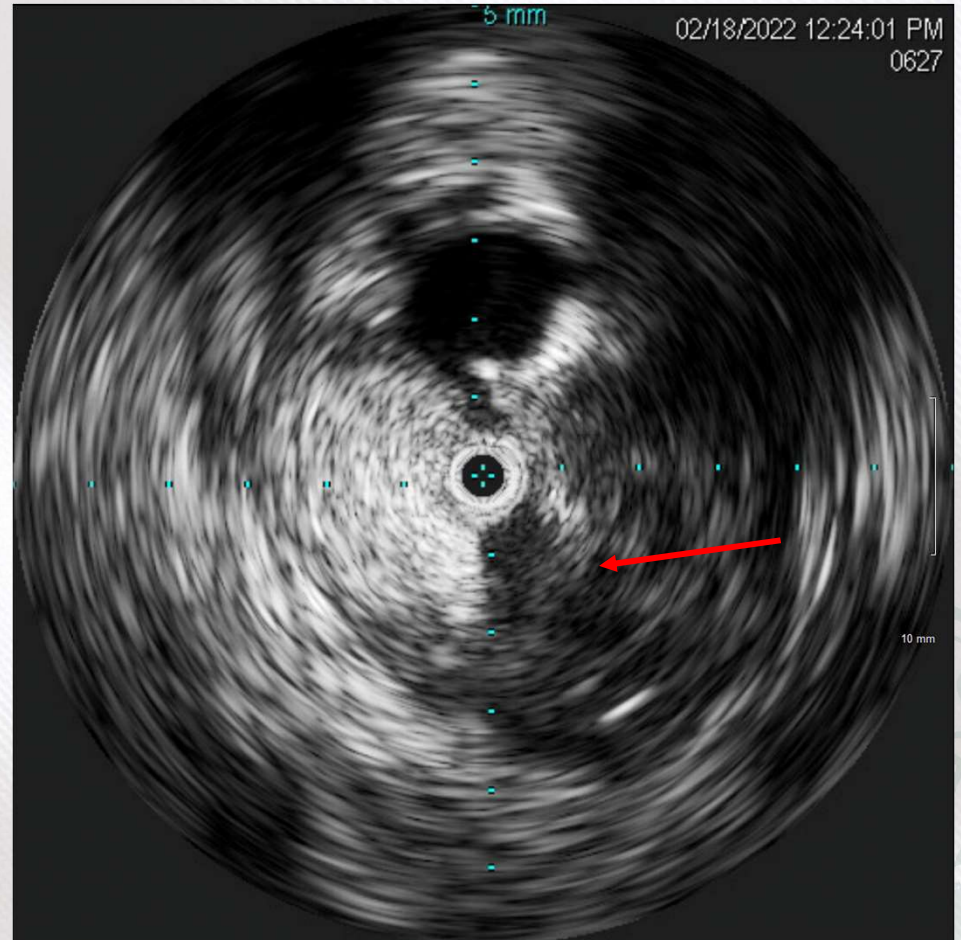
After Mechanical Thrombectomy



> Intravascular Ultrasound



Compressed Left Common Iliac Vein



Left External Iliac Vein Disruption



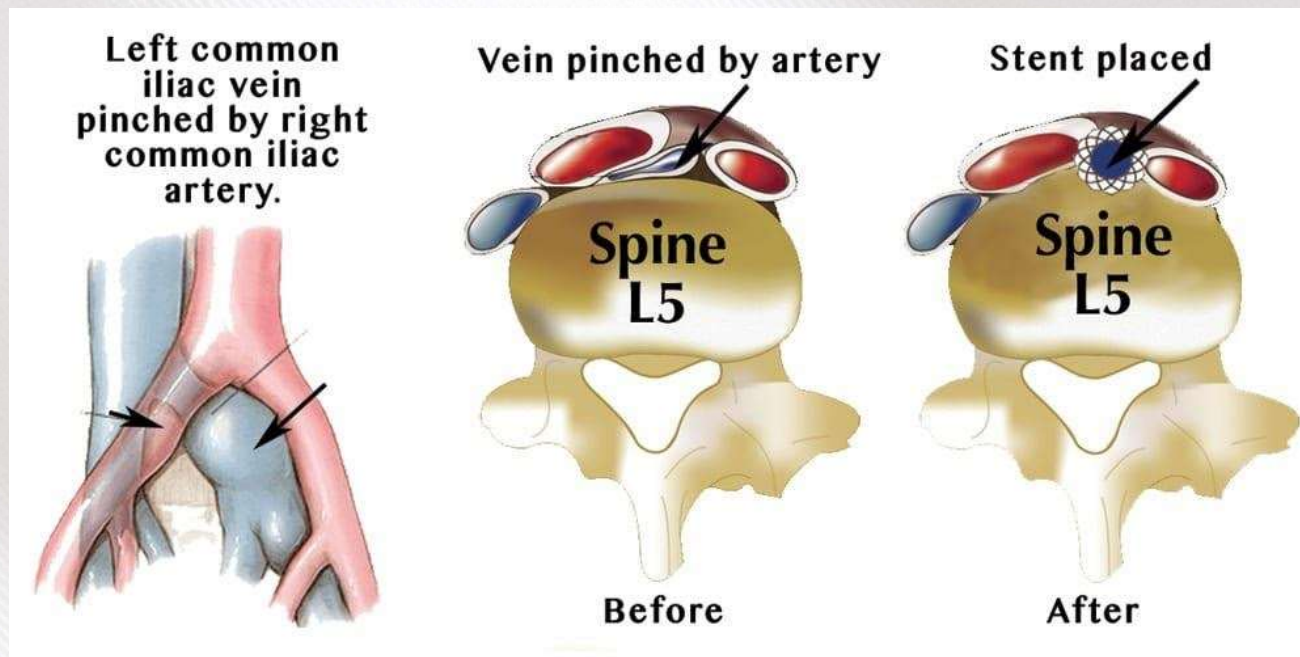
> Stenting

- Uncovered stent
 - MTS defect
- Covered stent
 - Left external iliac vein defect



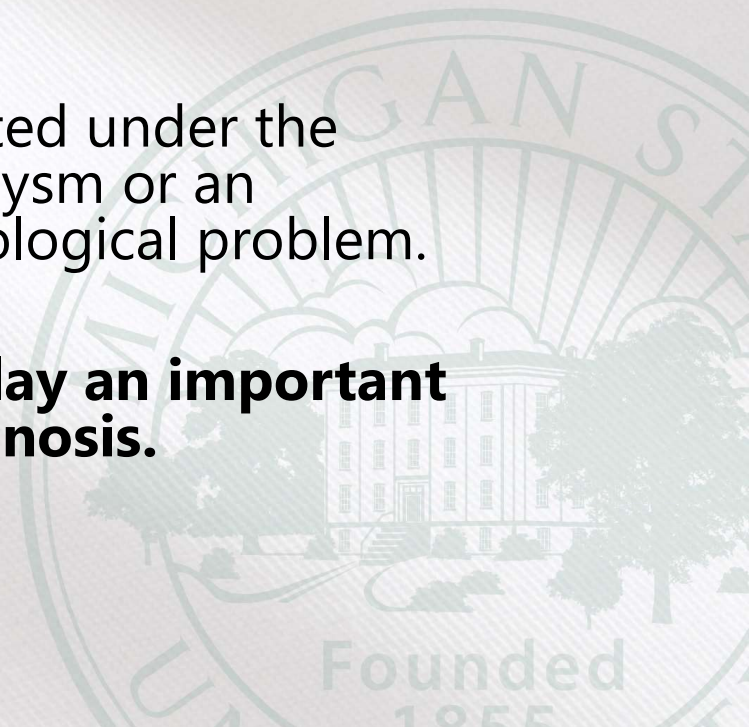
➤ May-Thurner Syndrome

- An anatomically and pathologically variable condition leading to venous outflow obstruction secondary to extrinsic venous compression in the ilio caval venous territory
- Most commonly due to compression of the left iliac vein between the overlying right common iliac artery and the fifth lumbar vertebrae



➤ Clinical Takeaway

- **MTS presenting with a ruptured iliac vein and retroperitoneal hematoma is a rare presentation.**
- There are only a small number of reported cases of spontaneous rupture of the iliac vein.
- These cases have occurred predominantly among middle-aged or elderly women. With the rupture occurring on the left side in most cases.
- Most cases in the literature were operated under the misdiagnosis of a ruptured aortic aneurysm or an abdominal catastrophe due to a gynecological problem.
- **High clinical suspicion and CT scan play an important role in the correct pre-operative diagnosis.**



References

1. Zieber SR, Mustert BR, Knox MF, Fedeson BC. Endovascular repair of spontaneous or traumatic iliac vein rupture. *J Vasc Interv Radiol*. 2004 Aug;15(8):853-6. doi: 10.1097/01.RVI.0000128811.75493.CC. PMID: 15297589.
2. Agilinko J, Husain N, Fanelli D, Raza SS, Kumar P. When DVT turns into surgical catastrophe: undiagnosed case of May-Thurner syndrome leading to retroperitoneal haematoma and fatal bleeding. *J Surg Case Rep*. 2020 Feb 19;2020(2):rjz385. doi: 10.1093/jscr/rjz385. PMID: 32099642; PMCID: PMC7031067.
3. Poyyamoli S, Mehta P, Cherian M, et al. May-Thurner syndrome. *Cardiovasc Diagn Ther*. 2021;11(5):1104-1111. doi:10.21037/cdt.2020.03.07
4. Nishimoto Y, Toma M, Iwasa K, Sato Y. Successful staged management of a spontaneous iliac vein rupture associated with May-Thurner syndrome: a case report. *Eur Heart J Case Rep*. 2021 Aug 4;5(8):ytab316. doi: 10.1093/ehjcr/ytab316. PMID: 34514304; PMCID: PMC8422344.
5. Sudheendra, D., 2022. *May Thurner Syndrome: An Unknown Vascular Condition - Get Healthy Veins*. [online] Get Healthy Veins. Available at: <<https://www.gethealthyveins.com/2021/01/13/may-thurner-syndrome-an-unknown-vascular-condition/>> [Accessed 10 May 2022].
6. Mousa, A (2021). May-Thurner Syndrome. In UpToDate. Retrieved May 10, 2022 from https://www.uptodate.com/contents/may-thurner-syndrome?search=may%20thurner%20syndrome&source=search_result&selectedTitle=1~18&usage_type=default&display_rank=1

