

Background

- Presacral venous plexus injury is an uncommon but well recognized complication of rectal cancer surgery, with an incidence of 0.25-8.6%. If not recognized and addressed promptly, it can lead to rapid hemodynamic instability and even be lethal. While multiple treatment strategies have been described, prevention through careful dissection remains the most effective approach.
- Here, we describe the rare case of a patient with concurrent low rectal cancer and May-Thurner syndrome complicated by large sacral varicose veins.

Case Report

- 67-year-old woman with COPD, emphysema, and prior lung cancer resection. 9/2023 — Presented with rectal bleeding. Colonoscopy revealed a 2-cm right lateral distal rectal mass (3 cm from anal verge, clinical T2) and a distal rectal polyp at the anorectal ring removed by hot snare (adenocarcinoma fragments). MRI staged T3bN0.
- Late 2023 — Began total neoadjuvant therapy (TNT) with FOLFOX (not tolerated), transitioned to FOLFIRI (also discontinued). Flexible sigmoidoscopy (1/2024) showed good response; APR planned.
- Pre-operative MRI (Fig. 1A) confirmed partial response but incidentally showed large presacral and precoccygeal varicosities along with findings of Left iliac vein compression suspicious for May–Thurner syndrome (MTS) and resulting high bleeding risk during pelvic dissection.
- 3/2024 — Venogram confirmed MTS with pelvic collateral varicosities. Coil embolization performed and left common iliac vein stented.
- 4/2024 — Surgery postponed due to pulmonary embolism and patient’s preference. Patient underwent chemoradiation, completed 6/2024. MRI (8/2024) demonstrated complete clinical and radiologic response, and the patient entered a watch-and-wait protocol.
- 5/2025 — Local recurrence detected on flexible sigmoidoscopy . MRI confirmed recurrence and resolution of sacral varicosities (Fig. 1B); multidisciplinary decision for APR.
- Operation — Robotic APR completed. Posterior rectal dissection performed transabdominally to the pelvic floor without complications. EBL 100 mL. Final pathology: ypT2N0, negative margins, no lymphovascular invasion. Discharged POD4; doing well on follow-up.

Diagnosis
• 9/2023

Neoadjuvant chemotherapy
• 10/2023

Sacral varicose veins embolization and R iliac vein stenting
• 3/2024

Neoadjuvant chemoradiation with complete response
• 9/2024

Tumor regrowth
• 5/2025

APR
• 7/2025

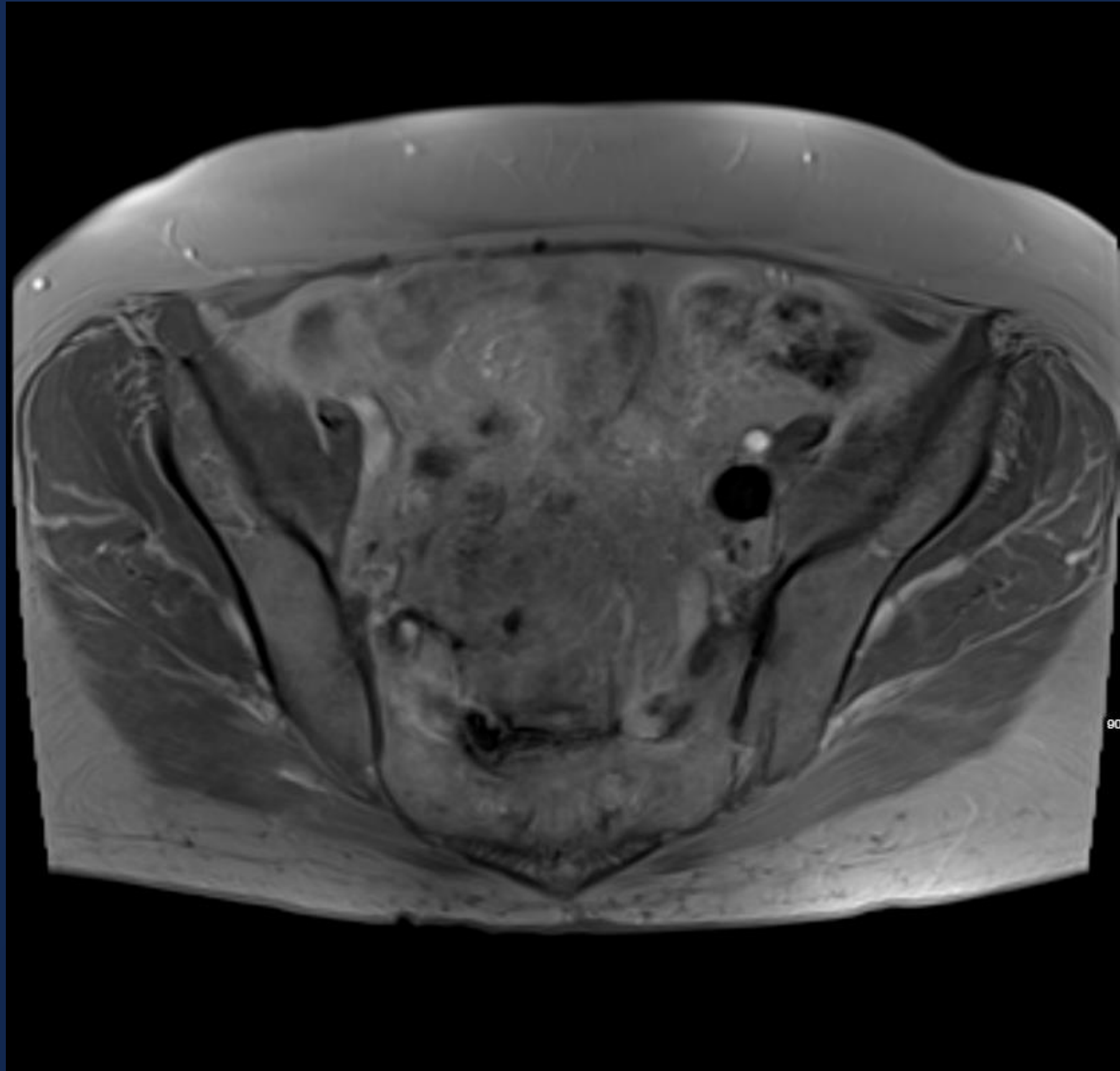
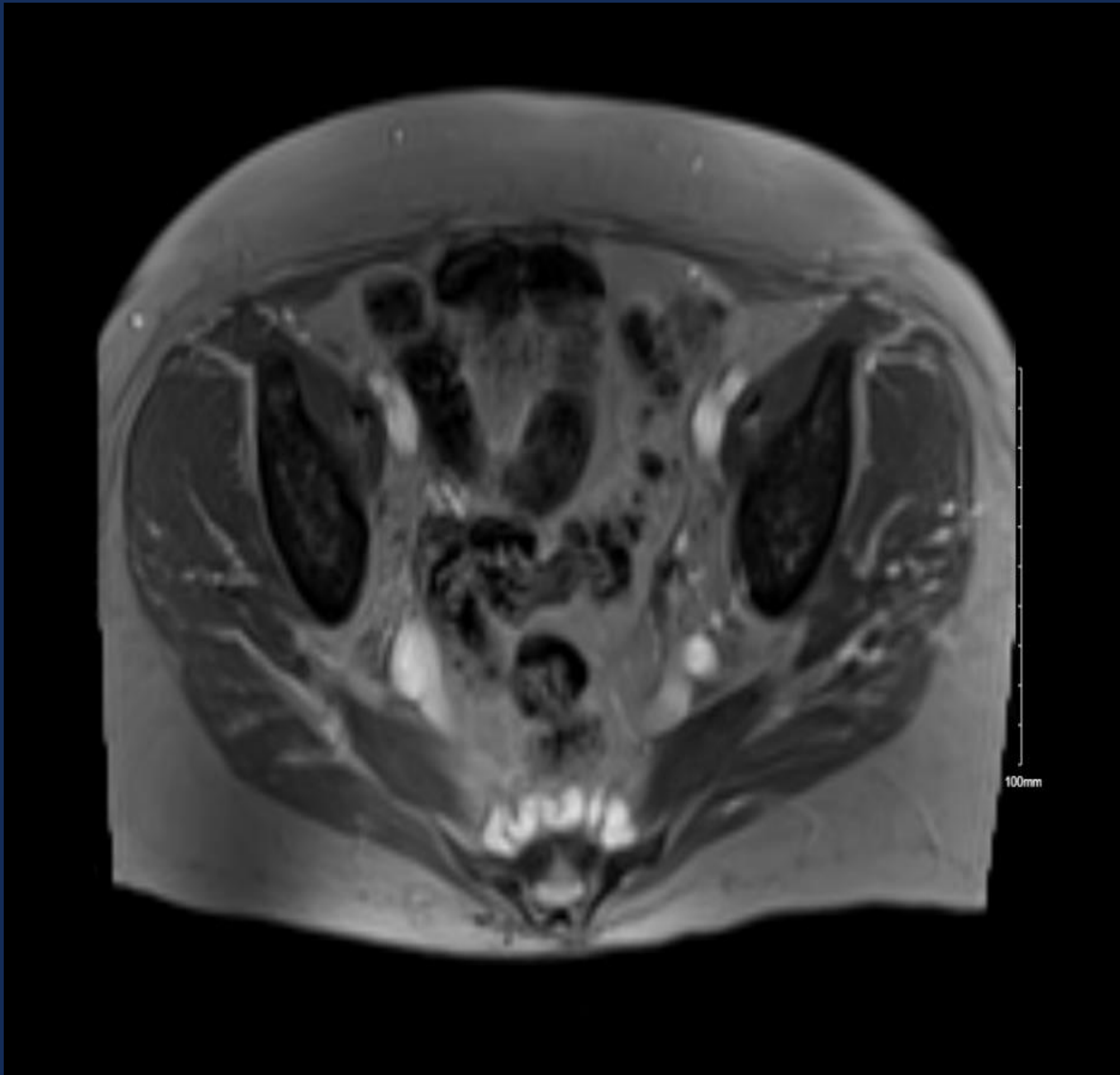


Figure 1A. Pre-intervention MRI demonstrating large presacral and pre-coccygeal varicosities extending across midline

Figure 1B. Post-intervention MRI showing significant regression of presacral varicosities following endovascular treatment



Discussion

- This case highlights successful integration of endovascular intervention, minimally invasive surgery, and complex oncologic planning in rectal cancer with vascular anomalies.
- Preoperative endovascular embolization and iliac vein stenting allowed safe posterior rectal dissection with minimal blood loss
- Incidental pelvic varicosities on rectal cancer staging MRI should prompt evaluation for May–Thurner syndrome, as preoperative endovascular management may facilitate safer pelvic surgery.