A Weekly Radiology Odyssey

CASE FILE · USG · CECT · SURGERY

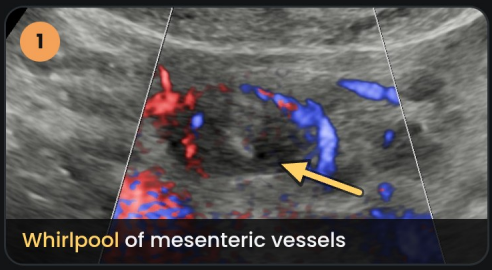
Pouches in a Spin

Jejunal diverticula → segmental volvulus → small-bowel obstruction

A 75 yrs old male, referred for an ultrasound of the abdomen for pain abdomen and vomiting

ULTRASOUND

Day 0 · Doppler + linear probe



Whirlpool of mesenteric vessels



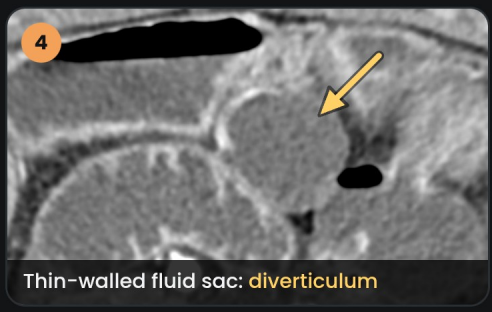
Diverticulum, seen in retrospect

CT SCAN

Day 2 · contrast-enhanced · axial



Whirl at the root of the mesentery



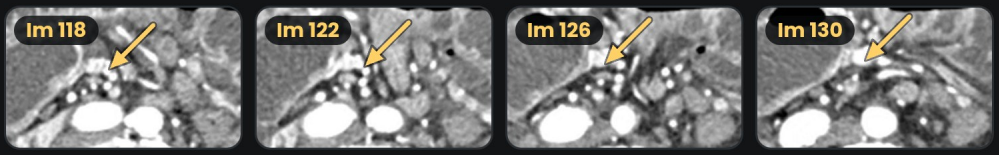
Thin-walled fluid sac: diverticulum

CT IMPRESSION

Acute SBO — dilated stomach, duodenum and jejunum with multiple jejunal diverticula ; abrupt mid-jejunal transition with an anticlockwise mesenteric twist: **volvulus**. Normal SMA–SMV relation (no malrotation), no mass. Mild ascites; bilateral polycystic kidneys.

CT CINE

Arterial phase · Im 118 → 130



Scrolling down through the root, the vessels wind round the twisted mesentery.

SURGERY

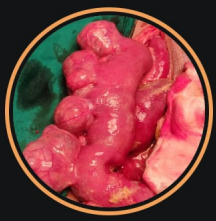
Day 6 · laparotomy



Multiple diverticula



Pouches along the loop



Diverticula-laden loop

FINAL DIAGNOSIS

Segmental jejunal volvulus with multiple jejunal diverticula as the lead point

Management — resection of the diverticula-bearing segment with primary anastomosis; uneventful recovery.

Twist flagged on Day-0 Doppler; confirmed on CECT with cause and confirmed at surgery.

HOW THE TWIST HAPPENS



1 · THE POUCHES

Mucosa bulges out where vessels pierce the mesenteric border.



2 · THE LEAD POINT

The pouch-laden loop becomes a lead point and rotates.



3 · THE WHIRL

Vessels spiral round the root; the bowel above it obstructs.

TEACHING POINTS

DIVERTICULA BY NUMBERS

approximate

- **<3%** — **of adults** have jejunoileal diverticula (0.3–2.3%)
- **80%** — **never cause symptoms** — found by chance
- **10%** — **develop complications** — bleed, perforate, obstruct
- **75%** — **lie in the jejunum** — proximal, mesenteric side

1. **Whirl = twist —** on Doppler or CT, vessels spiralling round the root point to volvulus: get urgent CECT and a surgical review.
2. **No malrotation? Find the lead point —** a normal SMA–SMV relation makes the twist secondary; search for what the bowel twisted around.
3. **Diverticula hide —** on the mesenteric border they mimic fluid-filled loops; here, in retrospect, they were visible on Day-0 USG and on CT.
4. **Red flags —** poor bowel-wall enhancement, a thick-walled closed loop, mesenteric oedema or pneumatosis suggest ischaemia: operate now.

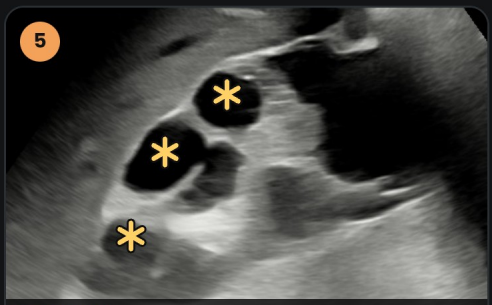
ALSO THINK OF Adhesive band · Internal hernia · Meckel's diverticulum · Tumour lead point · Malrotation

TAKE-HOME MESSAGE

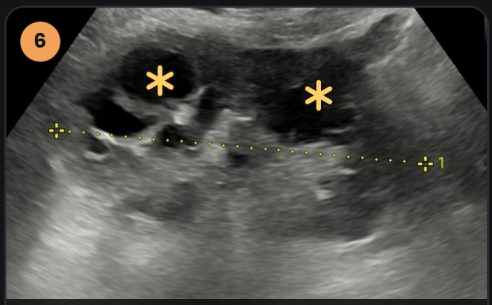
No malrotation, yet a whirl? *Hunt for the lead point* — here, the round fluid sacs by the jejunum were diverticula.

POLYCYSTIC KIDNEYS

Day 0 · USG · incidental



Right kidney: multiple cysts



Left kidney: cysts

KIDNEY FINDINGS

USG: both kidneys normal in size, with multiple simple cortical cysts up to 30 mm, more on the right; no calculus or hydronephrosis. **CECT:** more than five cysts in each kidney, the largest 58 × 42 mm at the right lower pole.

POLYCYSTIC KIDNEYS & DIVERTICULA

- **Colon —** in kidney failure, diverticulitis struck 20% of ADPKD patients vs 3% of others (Lederman 2000); a US nationwide inpatient study found diverticulosis about twice as often (Duarte-Chavez 2021).
- **Small bowel —** jejunal diverticula are reported in ADPKD, rarely, and can perforate (Morelle 2010; Naito 2024).
- **Why? —** polycystin-1 and -2 are expressed in intestinal smooth muscle; a causal link is proposed, not yet proven (Morelle 2010).

Polycystic kidneys? Check the bowel for diverticula

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CASE COURTESY
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