Royal Australasian College of Surgeons

Caecal herniation through the foramen of Winslow with spontaneous reduction

A 71-year-old female presented to the Emergency Department with sudden onset epigastric pain of one-hour duration. The pain was described as sharp and severe, with no associated nausea or vomiting. The patient had a surgical history of an appendicectomy and lower uterine Caesarean section. Her upper abdomen was soft but exquisitely tender with guarding and present bowel sounds. Computed tomography (CT) demonstrated a dilated, gas-filled loop of colon herniating through the Foramen of Winslow (FoW) and laying within the lesser sac. The collapsed afferent and efferent loops had interchanged positions such that the afferent loop lay medially, suggestive of a degree of torsion (Figs. 1 and 2). The images were initially reported as a perforated caecal diverticulum with free air tracking into the lesser sac.

The patient was taken for exploratory laparotomy within 5 h of presentation. An upper midline laparotomy was made, and thorough inspection of the abdomen undertaken. Surprisingly, the caecum had completely reduced at time of laparotomy and appeared viable. The mesocolon did not appear excessively elongated and the caecum and ascending colon were not hypermobile.

The small bowel and mesentery were examined for abnormalities or defects. The gallbladder, liver, duodenum, and stomach all appeared grossly normal. No further action was considered necessary and the laparotomy was then closed. The patient recovered well and discharged home on day 4 with no complications. Twelve months on, the patient was well and had reported no recurrence of pain or obstructive symptoms.

The Foramen of Winslow (FoW) is the only natural communication between the greater and lesser sacs and is formed by the hepatoduodenal ligament ventrally, the inferior vena cava dorsally, the caudate lobe cranially, and the first part of the duodenum caudally.[1] Hernias through the FoW are rare, representing approximately 8% of internal hernias. The most common structure implicated in FoW hernias is small bowel, accounting for two-thirds of their contents. The remaining one-third are from caecum or ascending colon, or more rarely, gallbladder and transverse colon.[2]

Symptoms are non-specific and can lead to diagnostic delay. Abdominal pain is the primary symptom and is typically felt in the right upper quadrant with radiation to the left, to the shoulder, or to the back. Obstruction can present as nausea and vomiting, and the presence of ischaemia may lead to severe pain.[3] The mortality rate of FoW hernias has been reported as high as 49%, however, this had been prior to the advent of CT where diagnostic delays were common owing to the non-specificity of the symptoms.[4]

Operative management is performed to reduce the hernia with resection of bowel if deemed unviable. Intraoperative decompression via cannulation or incision may be required if the contents are irreducible. Once the contents are reduced, further measures have been described to prevent recurrence. These include closure of the FoW, resection of redundant bowel, or caecopexy of an excessively mobile colon.[3,5–7] Closure of the FoW is achieved by suture or omental patch, however, carries the risk of injury to the portal vein and bile duct.

Presently, there is no agreement on whether caecopexy or foramen closure should be implemented to prevent recurrence. FoW hernias are rare and thus consensus on optimal management is

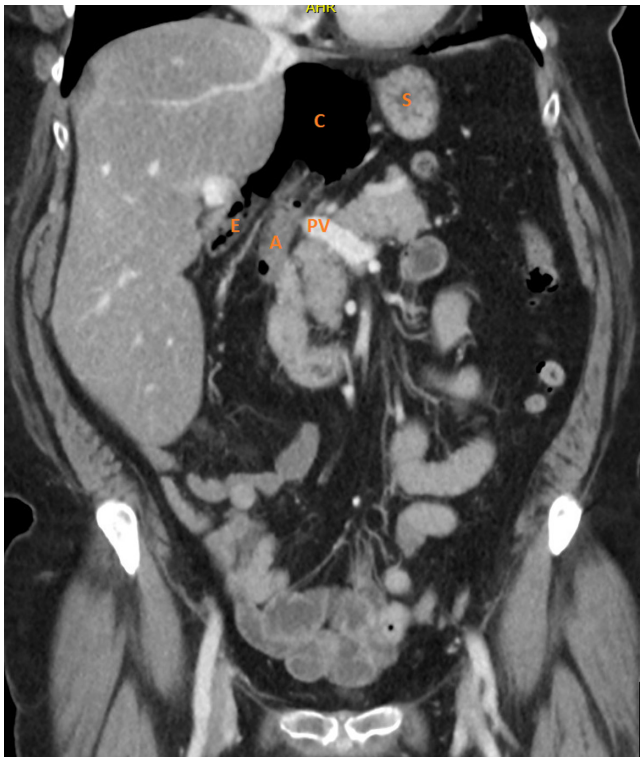

Fig. 1. Coronal CT abdomen/pelvis demonstrating the caecum within the lesser sac with herniation through the FoW. C, caecum; E, efferent limb; A, afferent limb; PV, portal vein; S, stomach.

[Correction added on 22 February 2022, after first online publication: Projekt Deal funding statement has been added.]

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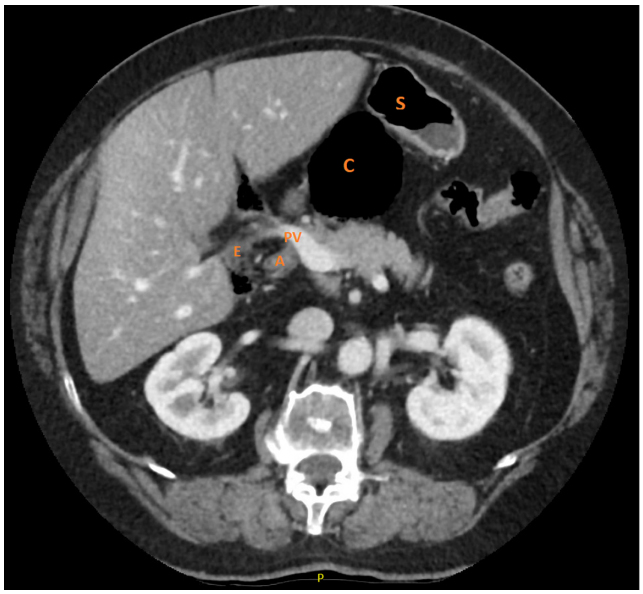

Fig. 2. Axial CT abdomen/pelvis demonstrating the caecum within the lesser sac with herniation through the FoW. C, caecum; E, efferent limb; A, afferent limb; PV, portal vein; S, stomach.

difficult to attain. Importantly, there have been no documented cases of recurrent FoW hernia to date. This poses the question of whether preventative measures need to be undertaken at time of surgery, particularly given the added operative risks.

There has been one other case documented of a spontaneously reduced FoW caecal hernia whereby a right hemicolectomy was performed as the caecum was found to be overly mobile.[8] The case described here is unique as the bowel had self-reduced at time of operation and no additional prophylactic measures undertaken. The patient had no similar symptoms previously and no recurrence after a year of follow up.

Foramen of Winslow hernias are rare and require surgical management for reduction. There is no consensus on further operative steps to reduce the risk of recurrence and there have been no reports of recurrent FoW hernias. In this case study, spontaneous reduction of the hernia contents with healthy viscera avoided the need for resection. The colon was not excessively mobile and the mesocolon was not elongated, thus, caecopexy was unwarranted. Closure of the FoW was avoided given the risk of injury to vital structures and the normal appearance of the foramen. At 12 months post-op, the patient had no recurrent symptoms. Finally, it should be noted that the CT was originally misdiagnosed as a perforated caecal diverticulum highlighting the need for greater awareness of FoW hernias.

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Author contributions

Daniel Tani: Investigation; methodology; project administration; writing – original draft. **Damian Fry:** Conceptualization; supervision; writing – review and editing.

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