Internal hernia through the foramen of Winslow associated with an incomplete rotation of the medium intestine

Key words: Winslow’s foramen. Internal herniation. Incomplete intestinal rotation.

Dear Editor,

We describe a case of internal caecal and ascending colon herniation through the foramen of Winslow (FW), associated with an incomplete rotation of the medium intestine (IRMI).

Clinical case

52 year old male suffering for 12 hours from an acute epigastric pain. His medical history includes premature birth, ischemic myocardopathy and a coronary triple bypass. Physical examination: epigastric distension, pain and tympanism at the epigastric level.

Abdominal radiography: gassy epigastric distension and abnormal intestinal gas distribution. Abdominal CT scan (Fig. 1). Diagnosis of internal herniation and IRMI is suggested.

Exploratory laparotomy: complete ascending colon translocation from right to left through the FW (Fig. 2). Appendectomy to aspirate colonic gas; appendectomy and reduction of the herniated colon not presenting ischemic damage. Incomplete rotation of the medium intestine: duodenum appears displaced to the right in relation to its normal position, elongated, but relatively fixated to the retroperitoneum; the small intestine is located in the right side of the abdomen, the mesenterium presents a medium length and a slight displace of Treitz’s angle to the right; caecum, ileocaecal junction and ascending colon are movable and located in a central and upper position. Post-operative evolution: no complications seen; patient remained asymptomatic after 4 years from the operation.

Discussion

Less than 200 cases of internal herniation through the FW have been reported (FWH), frequently associated with congenital or acquired and anatomic abnormalities (1,2). The most affected anatomical structures are colon, small intestine and, less often, gall bladder (2,3). Occlusion with variable ischemic degree usually occurs, but it can also appear as an obstructive jaundice, biliary colic, secondary pancreatitis and asymptomatic herniation (4,5). Some cases have been associated with Nissen fundoplication and laparoscopic colecistectomy (4,6).

The so-called “malrotation” or IRMI is rarely recognised as a causal factor of FWH, but its presence could facilitate the mechanisms of herniation in this anatomic space or other acquired defects (7).

The foramen of Winslow, also known as the epiploic foramen, represents the existing space between the portal vein and inferior cava vein; the passage of communication between the peritoneal cavity and the epiploic cavity. It appears naturally obliterated by the intra-abdominal pressure, but it could be easily trespasssed. An intestinal herniation through the FW usually begins from right to left and it can progress in two ways: a) severing the hiatal space and occupying the epiploic cavity, displacing the stomach cranially and leftwards (8); or b) protruding onto the thin layer that constitutes the minor epiplon until rupturing, therefore the angulation of the herniated viscera dis- placing the stomach to a posterior position, like in our case (9). FWH rarely occurs from left to right, and in those cases, the pressure the viscera applies onto the minor epiplon, permits that it trespasses the hiatus and this viscera could emerge from the right side (5).

An accurate preoperative diagnosis or a FWH suspicion is only achieved in 10% of the cases, and a rapid surgical intervention is the only factor that decreases its important morbimortality (2). In cases where we find colonic affectation, CT
shows characteristic hydroaereal level at epigastrium and/or hepatic hilum, caecum is not positioned in the right iliac fossa, as well as anterior or posterior gastric displacement and to the left (1). Upper intestinal Gastrogralin® exploration and/or barium enema and ecography can also be useful. In this case, CT scan showed the presence of the common hepatic artery at the narrowed point in the ascending colon where the obstruction is present, and in the immediate upper section, the division of the left hepatic artery (Fig. 1).

The association of FWH and different anatomical abnormalities (upper or sub-hepatic caecum, mobile ascending colon, broad colonic mesentery, etc.) could actually be seen as different IRMI grades. Although a “malrotation” diagnosis is not usually mentioned, we believe that this condition could be underlying in part of the FWH linked to non-acquired anatomical defects.

Intestinal herniation through the FW is an infrequent cause of intestinal obstruction. Its actual relation with a IRMI could be more frequent than literature reports; its diagnosis, by using simple radiography and abdominal CT scan, could lead to a prompt surgical approach and minimise its morbimortality.


Service or General and Digestive Surgery. Complejo Hospitalario Universitario de Vigo. Pontevedra, Spain
References


Fig. 2. Operating area before the hernial reduction and anatomical illustration. Great caecal and ascending colon enlargement (Ci and CA) that begins at the hepatic pedunculilevel (PH), Gall bladder (V) is easily identifiable. The transverse colon (CT) pre-hernia does not show dilatation and its mesentery is broad. The surgeon’s right hand separates small intestine (ID).