Case	(107) Internal hernia: a case report
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CASE PRESENTATION

82-year-old female with recurrent episodes of intestinal pseudo-obstruction, who presented a 48 hours history of nausea and diffuse abdominal pain. An abdominal radiography was firstly realized. As it revealed obstruction signs, an abdominal CT was ordered. CT shows that the distended bowel loops are mainly located in the left hemiabdomen.

In addition, this segment of the small intestine seems to be occluded at two adjacent points with a distribution of twisted and thickened mesenteric vessels toward that point. Despite the nasogastric intubation, the stomach is distended with plenty of food remains within.

DISCUSSION

Considering these findings, the radiological diagnosis of internal hernia was firstly established, and it was afterwards confirmed intraoperatively. Clinical signs and symptoms of internal hernia are non-specific and overlap with those of other pathological conditions in the abdomen.

That's why imaging techniques are essentials for a correct diagnosis as well as for rule out other causes of small bowel obstruction. Multidetector CT with intravenous contrast material (unless contraindicated) is the first-line image technique.

One of the diagnostic keys is the evidence of small-bowel obstruction with dilated loops and air-fluid levels. A saclike appearance with closed loop and U- or C-shaped strongly supports the diagnosis. In our case the exact point where the loops prolapse through the hernial orifice is clearly identified with the image of an intestinal segment occluded at two adjacent points.

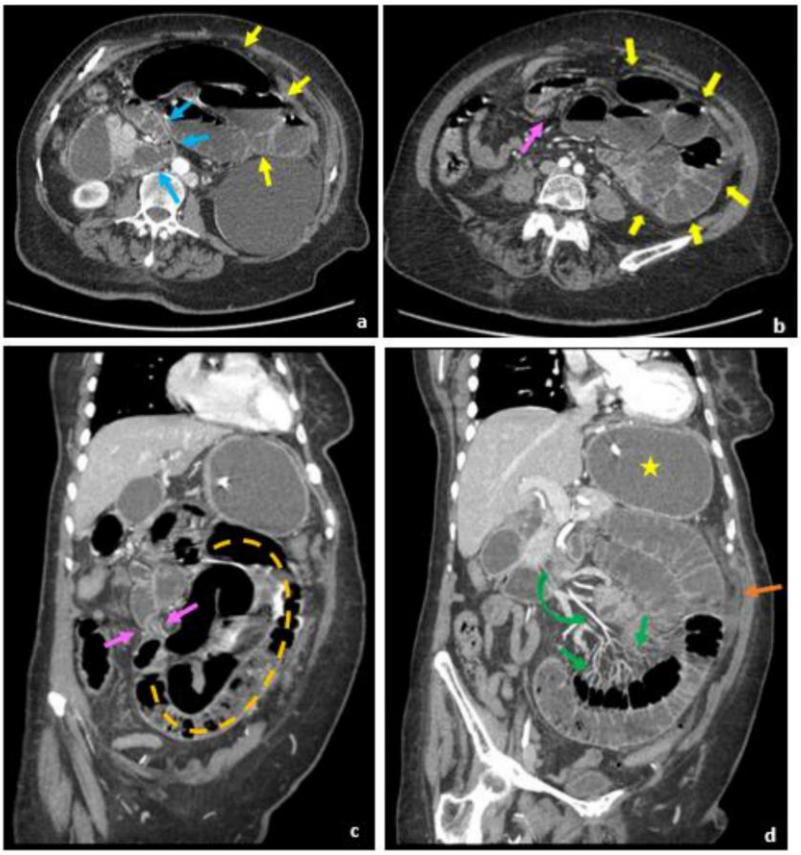
Another additional finding is the engorgement, crowding and twisting of the mesenteric vessels. This is frequently found and provide an important clue to the underlying diagnosis. As soon as it is suspected, it is important to warn the surgeon because if strangulation is presented, mortality is been reported to exceed 50% in those cases left untreated.

CONCLUSION

Internal hernia is a challenging disorder for clinicians to diagnose because of the nonspecific signs and symptoms. Although internal hernias have an overall incidence of less than 1%, their incidence has been increasing because of more frequent surgery treatments that create acquired orifices through whom bowel loops are easier to herniate.

Multidetector computed tomography has stablished its status as a powerful diagnostic tool for acute abdomen, and this remains true for internal hernias. It is essential to pay

attention to direct and indirect signs of the internal hernia so that a correct diagnosis could be done.



A and b. Axial contrast-enhanced CT where the blue arrows point out the atypical disposition that acquires the third duodenum segment, which goes toward anterior and caudal location to get to the hernial orifice (pink arrow). CT scan also shows evidence of small-bowel obstruction of herniated contents as multiple loops of dilated small-bowel with air-fluid levels (yellow arrows).

c. The coronal reconstruction of contrast-enhanced CT also reveals the obstruction of the loops at two adjacent points (pink arrows) which correspond to the precisely point where the loops prolapse through the hernial orifice. Notice how the discontinued yellow line points out the typical U-shaped disposition of the herniated loops.

d. The maximum intensity projection (MIP) of the coronal reconstruction clearly demonstrate the stretched and thickened mesenteric vessels (straight green arrows) with a radial distribution (curved green arrow) toward the herniated loops. The orange arrow points out a slight amount of free abdominal fluid adjacent to the herniated intestinal loops. Notice also that the stomach is distended despite the nasogastric intubation.

BIBLIOGRAPHY

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