

## Internal hernia through the falciform ligament

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Dear Editor,

I read with great interest the paper published in *Hernia* by Egle et al. [1], reporting Internal hernias through the falciform ligament: a case series and comprehensive literature review of an increasingly common pathology, for at least three reasons.

Previously I would like to congratulate the authors for their report, rare by the incidental finding, even if it is an “increasingly common pathology”; well documented with nice pictures, CT Scan and interesting drawings. It gives me the opportunity to debate about Internal hernias: different types and what can be really considered as so?

We published our clinical experience of 14 cases in 2007 and precise the anatomical basis of internal hernias [2].

First of all, this type of bowel obstruction is very rare. It remains within the abdominal cavity and three types may be described. According to the orifice it is easy to distinguish them.

1. Through a normal orifice: omental or epiploic foramen (so-called Winslow’s foramen). It supposes two predisposing factors: a larger foramen than usual and a high mobility of the colon or a long mesentery. There is no specific cause and the hole is nothing but the entrance of the foramen bursae omentalis. It represents only 6–10 % of series [1, 2].
2. The orifice can be paranormal, with two main places: retrocaecal or para and retro duodenal. It is the most

frequent type: 50–55 % [1]. Here there is a real peritoneal sac or fossa.

3. The orifice can also be abnormal realizing a hole in ligament such as the falciform ligament of the liver, omentum [3] or a mesentery. Its incidence is 36 % [2].

We report here a photo of such defect, an asymptomatic and isolated hole through the falciform ligament of the liver, found during another surgery (Fig. 1).

In our series of 14 cases [2], we reported bowel obstruction through all the types. Two through the normal epiploic foramen, eleven in a peritoneal fossa with five different locations, and one case through a pathological orifice.

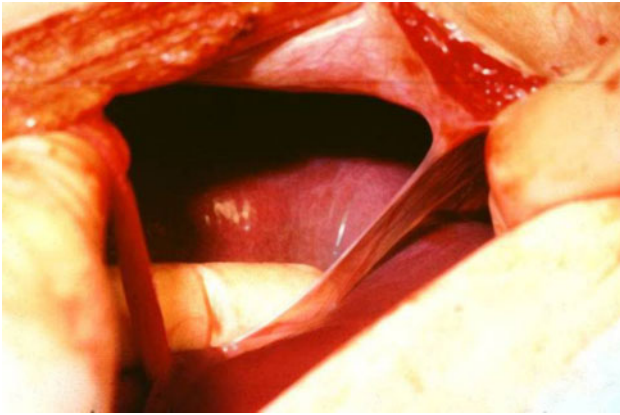
Secondarily, the authors proposed several aetiologies when it occurs in such location through the falciform ligament. In most cases, it is a congenital defect, in more than 25 % [1]. It can be associated with other hole. Such a pathological orifice formed in a mesenteric or omentum may inquire about bowel atresia [4]? Rarely (<5 %) defects with herniation can be provoked by trauma or pregnancy [1]. It can also be done by a previous surgery, specially by laparoscopic approach. Iatrogenic defects are increasingly common pathologies, mainly during the last decade [1]. The retractor can be the first responsible. Other causes such as inflammatory cholecystitis could cause degeneration of the falciform ligament and explain the increase of numbers published [1].

And third reason of interest, the discussion and concept itself of internal hernia.

Internal hernias are rare, <1–2 % of all hernias [2] and preoperative diagnosis is very difficult. Most of the time they are revealed by a bowel obstruction. The use of CT Scan is very important to confirm bowel strangulation, precise exact location and mechanism [1]. Surgery is

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**Fig. 1** Abnormal orifice. Per operative view: defect in the falciform ligament of the liver

compulsory, as soon as possible, to prevent bowel necrosis. Usually it is easily done: closure of the defect, even with resection when necessary. The only problem is concerning epiploic foramen where the hernia may be difficult to reduce, and what can be done for this normal orifice? (no closure, and fixation of the colon if it is the responsible). Prognosis is according to peritonitis, bowel resection, patient status and American Society of Anesthesiology (ASA) classification.

In our series of 14 cases, 13 were symptomatic: 9 bowel obstructions, 3 peritonitis and 1 for acute pain. Three elderly patients died, for faecal peritonitis, cardiac failure and post operative small bowel obstruction [2].

In fact two conditions must be combined to assert internal hernias [1, 2, 4, 5]:

- The hernia must remain inside the abdominal cavity, through an orifice which can be normal, paranormal or abnormal as already said.

- No previous surgery to exclude iatrogenic hernias. And if the patient have been operated before, we do agree with Egle et al. when they say: “must be included in the differential diagnosis whenever an internal hernia is considered” [1, 5].

Congratulations, once again, to the authors for this well-documented paper, which gives us the opportunity to remind about these rare and unknown pathologies: internal hernias.

**Conflict of interest** The author declare no conflict of interest.

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## References

1. Egle J, Gupta A, Mittal V, Orfanov P, Silapaswan S (2013) Internal hernias through the falciform ligament: a case series and comprehensive literature review of an increasingly common pathology. *Hernia* 17:95–100
2. Armstrong O et al (2009) Internal hernias: anatomical basis and clinical relevance. *Surg Radiol Anat* 29:333–337
3. Guinier D, Tissot O (2012) Stangulated lesser sac hernia *J Visc Surg* 149: 430 hernie interne transomentale étranglée. *J Chir* 149:241–243
4. Capito C et al (2009) Large congenital transmesenteric hernia: a missed small-bowel atresia? *Hernia* 13:209–211
5. Armstrong O (2013) About the article “Strangulated lesser sac hernia” *J Visc Surg* (A propos de l’article “Hernie interne transomentale étranglée *J Chir Visc* (2012) 149, 488)