

Abdominal Internal Hernias; 5 Cases At Aristide Le Dantec Hospital

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Citation

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Abstract

Introduction: Internal hernias correspond to an exit of bowel through a congenital or acquired intra-abdominal opening. In spite of their rarity, their anatomical and clinical characteristics are varied. They constitute a rare cause of digestive occlusion (approximately 1 to 5.8 % of all the occlusions). **Materials and method:** This is a retrospective study concerning 5 cases of internal hernias treated at Aristide Le Dantec hospital between October, 2004 and November, 2008. The studied parameters were: the circumstances of the diagnosis, the anatomical varieties, therapeutic care and results of the follow-up. **Results:** This study comprised 3 men and 2 women aged from 6 months to 82 years. The circumstance of discovery was always an acute intestinal obstruction. The CT scan realized in 3 patients had not allowed suspecting the internal hernia even if it had confirmed the organic occlusion. The diagnosis was then always per operating. At exploration, 1 right para-duodenal hernia, 1 supra-vesical hernia, 1 trans-mesenteric hernia, 1 trans-mesocolic hernia and 1 broad-ligament hernia were found. The treatment consisted of reduction of viable herniated bowel and closure of the abnormal opening. The postoperative course was simple in 4 patients. A patient of 82 years died as a result of an ischemic gangrene of the leg treated by amputation. **Conclusion:** Even if their frequency is low, it is advisable to think of the internal hernias in case of an acute occlusion, especially in the absence of a surgical history and of exteriorized hernias.

INTRODUCTION

Internal hernias constitute a rare pathology and are still underestimated. They represent rare causes of intestinal obstruction, discovered by operation or autopsy. Their diagnosis is rarely resolved before the intervention. During the exploration of the abdominal cavity, an effort of topographic location is necessary. Their treatment can also raise delicate problems. So many particularities justify our present study the purpose of which is to review the various anatomical varieties of these hernias, the elements of their diagnosis as well as the modalities of their coverage.

MATERIALS AND METHOD

This is a retrospective study concerning 5 cases of internal hernias treated in the service of general surgery between October, 2004 and November, 2008. The studied parameters were: the circumstances of the diagnosis, the anatomical varieties, the therapeutic coverage and the results of the follow-up.

RESULTS

This study comprises 3 men and 2 women. The patients were

44 years, 60 years, 6 months, 82 years and 44 years old. The circumstance of discovery was always an acute intestinal obstruction. CT scan realized at 3 patients had not allowed suspecting the internal hernia even if it had confirmed the organic occlusion. In 2 cases, it showed a bowel striction (figures 1 and 2) and in the third case, it evoked intestinal intussusception.

Figure 1

Figure 1: CT scan of observation 1 showing dilated loops in the right iliac area corresponding to a right para-duodenal hernia.

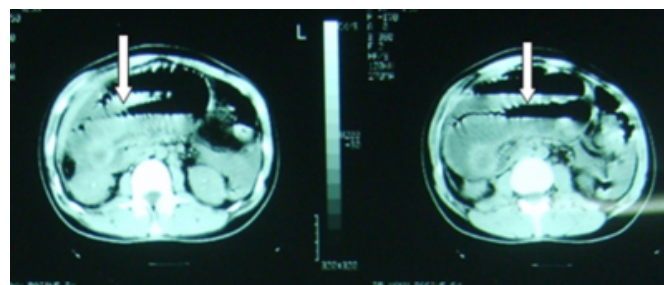
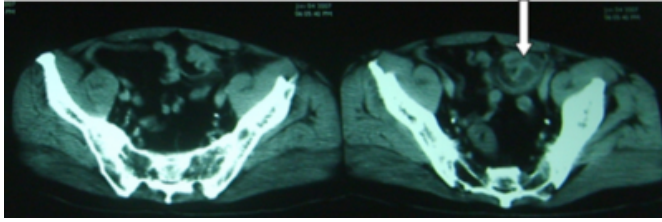


Figure 2

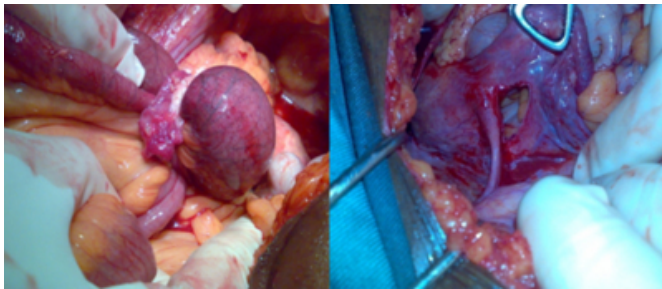
Figure 2: CT scan of observation 2 which evokes an intussusception and corresponds to a supra-vesical hernia.



The diagnosis of internal hernia was always made per operating (after laparotomy). At exploration, 1 right para-duodenal hernia, 1 supra-vesical hernia, 1 trans-mesenteric hernia, 1 trans-mesocolic hernia and 1 broad-ligament hernia were found (figure 4).

Figure 3

Figure 4: Per-operative view of the hernia of the broad ligament showing the incarcerated bowel and the opening in the broad ligament after reduction.



In the cases 1, 2 and 3, aetiology was congenital (table I). In the third and fourth patient, the hernias were acquired; we noted a recent surgical history (colostomy for ano-rectal malformation) in one of them and multiparity in the other one (table I). The treatment consisted of reduction of viable bowel herniated and closure of the abnormal opening. Recovery was uneventfully in 4 patients. The 82-year-old patient died as a result of an ischemic gangrene of the leg treated by amputation.

Figure 4

Table I: Summary of the 5 observations.

Patients	Age	Sex	Medical history	Hernial variety	Follow-up
1	44 years	M	Peritoneal tuberculosis	Right para-duodenal hernia	Simple
2	60 years	M	—	Supra-vesical	Simple
3	82 years	M	—	Trans-mesocolic	Dead
4	6 years	F	Colostomy	Trans-mesenteric	Simples
5	44 years	F	Multiparity	Broad ligament hernia	Simples

DISCUSSION

Abdominal internal hernias are responsible for 1 to 5.8 % of intestinal obstructions [1]. They are rare and often underestimated with necropsic discoveries in the order of 0.2 to 2% [1]. The anatomical varieties are multiple with a majority of para-duodenal hernias [2,3]. Their origins are congenital or acquired. During the embryonic development, the necessity of rotation of the primitive bowel can come along with defects as the origin of dimples and of abnormal openings responsible for congenital internal hernias. In contrast, acquired causes (surgical or traumatic) lead to so-called acquired internal hernias. Three groups of internal hernias can be distinguished:

- Internal hernias through a natural opening (hiatus of Winslow);
- Hernias through an abnormal opening as in 3 of our observations with 1 trans-mesocolic, 1 trans-mesenteric and 1 hernia of the broad ligament;
- Retro-peritoneal hernias with 2 cases in our series: 1 para-duodenal and 1 para-vesical hernia.

The diagnosis of these internal hernias is difficult because of their non-specific symptoms. They often show themselves by an occlusive accident just like our 5 cases. A preoperative diagnosis is exceptional. Imaging can confirm the organic occlusion but is not always sure for the diagnosis of internal hernias. The scanning realized in 3 cases did not allow us to make the diagnosis of internal hernia. Yutaka [4] reported CT images of a hernia of the bottom of Douglas' pouch. Chien-Heng [5] reported the first case of preoperative diagnosis of right para-duodenal hernia by scanning. The diagnosis is mostly made per operating [6]. The analysis (a posteriori) of the CT images can allow visualizing radiologic characteristics of internal hernias. Martin [1], Selcuk [7], Zissin [8] and Takeyama [9] described the radiological presentations of the main internal hernias. During the exploration of the abdominal cavity, the diagnosis of the anatomical variety is often not evident, as reported by Ménegaux [10]. Several landmarks such as duodenojejunal angle, cœcum, liver or splenic angle of the colon and recto-sigmoid can help.

Some peculiarities are to be underlined in the therapeutic care of these internal hernias. The ablation of the hernial sac is banned, useless, impossible, and even dangerous [11]. The closure of the abnormal openings is made by stitches

avoiding damaging the vessel which usually goes along these snares [11].

Some authors treated internal hernias successfully by laparoscopy [12, 13].

CONCLUSION

Even if their frequency is low, it is advisable to evoke internal hernias during an acute bowel occlusion, especially in the absence of a surgical history and of exteriorized hernias. For the surgeon operating, it is necessary to prevent them in particular by calibrating the transmesocolic passages of organs; by repositioning the colon after partial colectomy; and by closing mesocolic and mesenteric breaches after intestinal resection.

References

1. Martin LC, Merkle EM, Thompson WM: Review of internal hernias: radiographic and clinical findings. *AJR*; 2006; 186: 703-717.
2. Hansmann G H, Morton S A: Intra-abdominal hernia. Report of a case and review of the literature. *Arch Surg*; 1939; 39: 973-986.
3. Kiyotaka K, Toshio N, Tadataka H, Yosuke A, Takayuki K, Akihito N, Shohachi S, Hiroyuki K: Left paraduodenal hernia in an adult complicated by ascending colon cancer: A case report. *World J Gastroenterol*; 2006; 12(11): 1795-1797.
4. Yutaka I, Takashi S, Takeshi I: CT of internal hernia through a peritoneal defect of the pouch of Douglas. *AJR*; 2002; 179:1305-1306.
5. Chien-Heng L, Yung-Jen Ho, Wei-Ching L: Preoperative diagnosis of right paraduodenal hernia by multidetector computed tomography. *J Formos Med Assoc*; 2008; 107 (6): 500-504.
6. Kunihiro Hiraiwa, Kyoei Morozumi, Hiroshi Miyazaki, Keiichi Sotome, Akio Furukawa, Makoto Nakamaru: Strangulated hernia through a defect of the broad ligament and mobile cecum: A case report. *Gastroenterol*; 2006; 12(9): 1479-1480.
7. Selcuk D, Kantarci F, Gunduz OUT, Korman U: Review: Radiological evaluation of internal abdominal hernias. *Turk J Gastroenterol*; 2005; 16 (2): 57-64.
8. Zissin R, Hertz M, Gayer G, Paran H, Osadchy A: Congenital internal hernia as a cause of small bowel obstruction: CT findings in 11 adult patients. *Br J Radiol*; 2005; 78: 796-802.
9. Takeyama N, Gokan T, Ohgiya Y, Satoh S, Hashizume T, Hataya K, Kushiro H, Nakanishi M, Kusano M, Munechika H: CT of Internal Hernias. *RadioGraphics*; 2005; 25: 997-1015.
10. Ménegaux G: Les hernies dites trans-épiploïques (mésocolon transverse). *J Chir*; 1983; 43 : 321-362.
11. Kotobi H, Echaeib A, Gallot D: Traitement chirurgical des hernies rares. *Encycl Med Chir*; 2005; 2:425-439.
12. Takahisa H, Tetsushi H, Moritsugu T, Hirozumi S, Yuji O, Hiromitsu T, Tadao M: Laparoscopic surgery for diagnosis and treatment of bowel obstruction: Case report of paracecal hernia. *Med Sci Monit*; 2007; 13(7):79-82.
13. Bedioui H, Chebbi F, Ayadi S, Makni A, Daghfous A, Bakhtri M et al.: Abord cœlioscopique d'une hernie interne trans mésentérique. A propos d'un cas. *Le Journal de Coelio-Chirurgie*; 2007; 61: 62-64.

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