

# Laparoscopic treatment of mesenteric cysts

## Report of two cases



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### Laparoscopic treatment of mesenteric cysts, Report of two cases.

*Mesenteric cysts are rare intraabdominal tumors. Since the first report by Beneval in 1507, approximately 800 cases of mesenteric cysts have been described in the literature.*

*Clinical presentation is variable and depends on the size and location of the cyst. This lesion are often asymptomatic or can present as an abdominal palpable mass or with abdominal pain, nausea, vomiting, diarrhea or constipation.*

*Laboratory tests are usually helpless. Ultrasonography and CT scan are the best diagnostic tools.*

*In the past the treatment of choice was totally resection performed by open surgery.*

*With the advent of laparoscopic surgery same authors report mesenteric cysts excised laparoscopically.*

*The Authors report two cases of mesenteric cysts that were excised by laparoscopic surgery using .*

*The cysts of both patients were located in the mesenterium of colon. There were no intraoperative o postoperative complications and the postoperative course was uneventful and both patients returned to full activity within a short time.*

*The follow-up period ranged from 6 to 36 months and there were no recurrences. The laparoscopic surgery is a minimally invasive techniques and represent an alternative safe and less invasive operation for these abdominal cysts.*

KEY WORDS: Laparoscopic excision, Mesenteric cyst, Mesothelial cyst.

### Case report

#### CASE N.1

A 26 years old women was recovered to our Department on July 2004. She accused epigastric and periumbilical pain since two years, without dyspeptic symptoms such as nausea, vomiting or retrosternal pain.

Ultrasound examination and CT scan demonstrated the presence of a 8 x 6 cm cyst in the lower middle abdomen. This cyst appear roundish, unilocular and with a thin wall.

We performed excision laparoscopically (Fig. 1).

We use a 10 mm. Hasson above umbilical for the camera and three additional ports (a 5 mm on lower left quadrant; a 10 mm. on middle left quadrant and a 5 mm on middle right quadrant).

The dissection was performed by UltraCision™ (Ethicon

Endo-Surgery) and using clips to divided the bigger vessels.

So the cyst was easily dissected in an avascular plane, avoiding to injury surrounding structures (colon, intestine and bladder).

The cyst was put into an endobag and was removed through a sovraumbilical minilaparotomy.

The operative times was 40 minutes. The patient was discharged on the second post-operative day. Pathological examination revealed a benign mesothelial lined cyst.

#### CASE N.2

A 45-year-old women was admitted to our hospital on December 2005 because of abdominal discomfort lasting over the last two years. Physical examination revealed a mobile, non pulsatile, tender mass in the left upper quadrant of her abdomen. Laboratory tests were normal. Ultrasound examination and CT-scan showed an 20 x 10 cm large cyst in the left abdomen and extending from spleen to pelvic. This cists was unilocular and with a thin wall (Fig. 2).

Laparoscopic exploration and excision of the cyst were performed.

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Fig. 1: Mesenteric cyst and appendix in the case one.



Fig. 2: Laparoscopic view of mesenteric cyst in a 45-year-old women.

We used a 10 mm. Hasson cannula at the umbilical port for the camera and three additional ports (10-mm lower midline, a 5-mm upper midline and a 5-mm left-upper abdomen).

With blunt dissection using a new Ultracision™ (Ethicon Endo-Surgery), Harmonic ACE™ (Ethicon Endo-Surgery), the cyst was easily dissected from the mesentery of the left colon within the avascular plane between the two structures.

Several vascular and fibrous attachments to intestine and left colon were divided using only the Harmonic-ACE™ without cautery or clips.

This instrument allow to cut and to coagulate structures until 5-mm. Ultracision™ until 3-mm.

After the dissection the cyst free was put into a large endobag. When all the cyst was entrapment into endobag we provided to aspirate partially the cyst fluid to avoid the risk of spillage intracystic content into the abdomen cavity and to allow removal of the bag containing the cyst.

The operative times was 45 minutes. The patient was discharged on the first post-operative day. Pathological examination revealed a benign cyst with a thin fibrous wall without epithelial lining.

## Discussion

Mesenteric cyst is an uncommon abdominal cystic tumor; its incidence is reported to be approximately 1 case every 100.000 hospital admission <sup>1,2</sup>.

It can present in all ages but it is more frequent in younger patients.

Approximately half of mesenteric cyst are asymptomatic and they are detected incidentally in the course of routine abdominal examination or during surgery for other disease.

When the symptoms are present, these depend on the size and the location of the cysts. Clinical presentation include non specific symptoms like abdominal pain, nausea, vomiting, diarrhea, constipation. In same cases it can present with acute abdomen resulting from ropture or bleeding of the cyst, shock, intestinal obstruction, volvulus or torsion of the cyst.

Laboratory tests are usually helpless. Ultrasonography and CT scan are the best tools <sup>3</sup>.

Mesenteric cysts are most frequently sited in the mesentery of the small bowel, but they can be localized anywhere from the jejunum to the mesentery of the rectum <sup>5</sup>.

Historically, the description of these lesion has been confusing; several different histologic classification have been reported.

The classification more used has been described by Ros et al. <sup>6</sup>. The nature of the cyst was determined according to the cell type of the inner layer of the cyst wall, such as epithelial, endothelial or mesothelial cell origin. They are divided by pathological features into lymphangioma, nonpancreatic pseudocyst, enteric duplication cyst, enteric cyst, and mesothelial cysts.

Among these categories, the cystic limphangioma is differentiated from the others because it is far more common in children. Also it is frequently found with the invasion of neighboring structures (mainly intestine and mesenteric blood vessels). The other types of cysts are more common in adults, less frequently associated with symptoms of invasion.

The incidence of the malignant tumor is very low: about 3% as reported by Kurtz et al. in 162 adult cases <sup>1</sup>.

In the two cases reported from Authors, preoperative ultrasonography and CT scan strongly suggested a benign nature because of the homogenic content of the cyst, presence of a thin wall and absence of papillary tumor in the cyst wall.

The treatment of choice is complete surgery excision. Simple aspiration or drainage of a cyst is not recommended because it is attended by a high postoperative

recurrence. Laparoscopic resection is a more recent surgical option and is accompanied by the usual advantages of laparoscopic surgery: less pain, shorter hospital stay, prompt recovery to normal life, culminating in a decrease in costs<sup>7</sup>.

In most of cases a complete resection should be possible without complications. The dissection and resection can be performed with same difficulty because of the proximity of the cyst to mesenteric vessels and its adhesion to surrounding intestine. The transecting neighboring bowel vessels may result in a partial bowel resection.

In the two cases reported we used UltraCision™ or Harmonic ACE™ in the dissection to help to prevent complication

Infact this instrument allow to cut and to coagulate structures until 5-mm of diameter and furthermore it avoid the risk of damage of surrounding structures, really very high using electrocautery.

## Conclusion

From the 1993 when Mackenzie et al. described the first case of laparoscopic excision of a mesenteric cyst (8), approximately 20 cases were reported in literature.

In all published cases of laparoscopic resection of mesenteric cyst, no intra or post-operative complications were reported.

There was'nt lethality and no recurrent cyst was described after complete excision in the postoperative follow-up, and in none of these cases was conversion to the open procedure necessary.

In conclusion laparoscopic surgery for mesenteric cyst seems to be a good option. Although all types of abdominal cysts can be treated laparoscopically, different cysts require different laparoscopic procedures and a high skill of surgeon.

The use of always more sophisticated laparoscopic instruments help the surgeon to prevent a lot of complication.

## Riassunto

Le cisti mesenteriche sono dei tumori relativamente rari. Da quando, nel 1507 Beneval descrisse il primo caso, in letteratura ne sono stati riportati circa 800 casi. Tali tumori hanno una presentazione clinica variabile e dipendente dalle dimensioni e dalla localizzazione.

Spesso sono asintomatici ed il loro riscontro può essere occasionale nel corso di una ecografia eseguita per altri motivi, oppure possono manifestarsi come una massa addominale palpabile o con dolore, nausea, vomito diarrea o costipazione.

I tests ematochimici non rivestono alcuna utilità ai fini della diagnosi. L'ecografia e la TC sono le indagini diagnostiche più sensibili e specifiche.

In passato il trattamento di scelta era la chirurgia tradizionale. Con l'avvento della laparoscopia alcuni Autori hanno riportato casi di escissione di cisti mesenteriche con tale metodica.

Gli Autori riportano due casi di pazienti affetti da cisti mesenterica che sono stati trattati con la chirurgia videolaparoscopica. In entrambi i casi le cisti prendevano origine dal mesentere del colon. Non vi furono complicanze intraoperatorie né post-operatorie, ed i pazienti poterono riprendere e loro attività quotidiane nel giro di pochi giorni. Furono sottoposti ad un attento follow-up, da 6 a 36 mesi, e non si verificarono recidive. La chirurgia laparoscopica rappresenta un metodica mininvasiva che può essere applicata con sicurezza e con successo in tali patologie anche se poco comuni.

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