



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Laparoscopic excision of a voluminous mesenteric cyst: Case report of a rare entity and review of literature

Dario Bono*, Francesco Tomaselli, Rinaldo Caponi, Roberto Saracco

Department of General Surgery, Presidio Ospedaliero Martini, 91 Via Tofane, 10141, Turin, Italy

ARTICLE INFO

Article history:

Received 28 June 2020

Received in revised form 11 October 2020

Accepted 11 October 2020

Available online 15 October 2020

Keywords:

Mesenteric cysts

Laparoscopic excision

Case report

ABSTRACT

INTRODUCTION: The diagnosis and treatment of mesenteric cysts (MC) is a challenge due to rarity, lack of specific symptoms and variability in location and size. Mesenteric cysts are rare surgical entities that occur approximately in 1: 200,000–1: 350,000 hospitalizations.

PRESENTATION OF CASE: A 47-year-old female patient presented in August 2018 with occasional abdominal pains and an abdominal swelling palpable in the lower right quadrant. A CT scan with contrast enhancement confirmed a 11 cm mass with liquid content in the right iliac fossa, clearly separate from other intra-abdominal structures. The mass was completely excised laparoscopically. The patient was discharged on the third postoperative day. She was symptom-free at 30-day follow-up. Histology demonstrated a solitary non-pancreatic cyst of the mesentery with negative cytology for neoplastic cells.

DISCUSSION: The origin of mesenteric cysts (MC) is uncertain. Imaging (by ultrasonography, CT, and MRI) can be diagnostic. Therapy for these cysts should be performed if they are symptomatic or cause complications. The treatment of choice is complete surgical excision. The advent of laparoscopy has allowed the excision of these cysts without laparotomy in the expert hands of surgeons with good experience in advanced laparoscopy. Laparoscopy is not a standard for the presence in the literature of only case reports.

CONCLUSION: MC are commonly asymptomatic and discovered incidentally. If symptomatic, surgical excision is considered the cornerstone intervention and laparoscopic resection is feasible, causing less pain, a shorter postoperative stay, and quicker recovery of the patient than open operation. Further studies with a higher level of evidence are needed.

Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

The diagnosis and treatment of mesenteric cysts (MC) is a challenge due to rarity, lack of specific symptoms and variability in location and size. Mesenteric cysts are rare surgical entities that occur approximately in 1: 200,000–1: 350,000 hospitalizations [1]. They can develop in any tract of the mesentery from the duodenum to the rectum. We present a case of laparoscopic excision of voluminous mesenteric cyst and the review of literature. This paper has been reported in line with the SCARE criteria [2].

Abbreviations: MC, mesenteric cysts; CT, computed tomography; US, ultrasonography; MRI, magnetic resonance imaging.

* Corresponding author.

E-mail addresses: bonodario9@gmail.com (D. Bono),

francesco.tomaselli@aslscittaditorino.it (F. Tomaselli),

rinaldo.caponi@aslscittaditorino.it (R. Caponi), roberto.saracco@aslscittaditorino.it (R. Saracco).

<https://doi.org/10.1016/j.ijscr.2020.10.042>

2210-2612/Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

2. Presentation of case

A 47-year-old female patient presented in August 2018 for occasional abdominal pains and palpable swelling in the lower right quadrant of the abdomen. In the past, she had two cesarean sections, total hysterectomy for uterine fibroids and gastric bypass for obesity. She was not of any medications.

An upper abdominal ultrasound was performed on preoperative examinations and showed the presence of voluminous cyst of the right abdominal wall with a diameter of 10 cm, with clear margins, no vascularization to the color Doppler. Excluded renal or other parenchymatous organs associated to that cyst. A CT scan with contrast enhancement confirmed the presence of voluminous (11 cm maximum diameter) expansive formation with liquid content in the right iliac fossa with a clear plan of cleavage from other abdominal organs (colon, ileal loops, contralateral kidney and iliac vessels) (Fig. 1).

After CO₂ insufflation of the abdomen to 12 mmHg, ports were introduced in left paraumbilical site for the camera; other three work ports (5 mm of diameter) in left hypochondrium, left and right iliac fossa like our technique for laparoscopic right colectomy. The

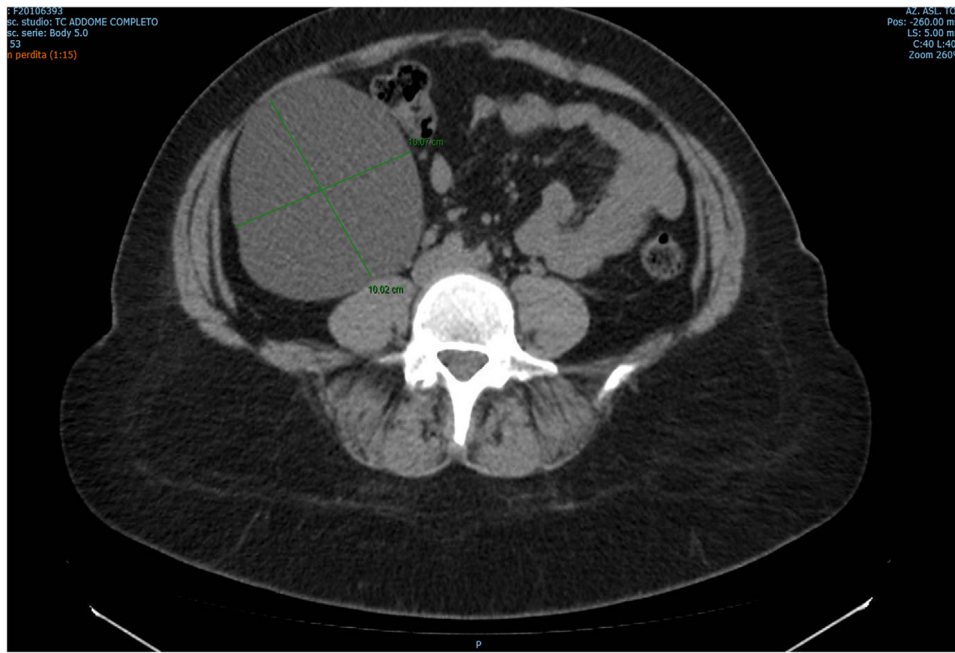


Fig. 1. CT with contrast enhancement which showed a presence of voluminous (11 cm maximum diameter) mesenteric cyst.

voluminous cyst was covered by peritoneum lateral of the right colon. After dissection with Thunderbeat (Olympus, Deutschland, GmbH) of the right parietocolic detachments, we performed a complete laparoscopic excision in 90 min. The cystic wall was extracted from abdomen in an endobag. An abdominal drainage was put (removed two days after).

The patient was discharged on the third postoperative day. Absence of abdominal complications or of surgical wound at 30 days. The definitive histological examination revealed: Solitary non pancreatic pseudocyst of the mesentery with negative cytology for neoplastic cells.

There were no recurrences at eighty months of follow-up.

3. Discussion

MC are rare entity. Exact etiology still remains far from being identified; but the failure of the lymph nodes to communicate with the venous or lymphatic system (embryonic or developmental cysts) or blockage of lymphatic flow in trauma, infections (infectious and degenerative) or neoplasms are thought to be contributing factors [3].

Last classification of intra-abdominal cysts (de Perrot et al., 2000 [4]) is based on histological characteristics and divided into 6 groups:

- Lymphatic cysts: simple cysts and lymphangiomas.
- Mesothelial cysts: malignant mesothelioma, simple cysts, and benign mesothelioma.
- Enteric cysts.
- Urogenital cysts.
- Mature cystic teratoma.
- Pseudocysts (infectious, traumatic, or degenerative).

To prevent confusion with the most common pancreatic pseudocysts, mesenteric pseudocysts are called non-pancreatic pseudocysts [5].

About the symptoms, all the case report described that MC often present with non-specific abdominal symptoms or as an incidental discovery. Often asymptomatic or with abdominal pain or disten-

sion, nausea and vomiting, flatulence, constipation, and diarrhea. They can rarely be complicated by intestinal perforation or occlusion [6].

Imaging techniques (such as ultrasonography (US, CT, and MRI) can help to arrive at the exact diagnosis. At US we can see a hypochoic mass frequently full of echogenic debris. CT and MR with contrast enhancement revealed cystic mass with thickened walls that may contain a fluid level with hemorrhagic or purulent content and no contrast enhancement.

Therapy for these cysts should be performed if they are symptomatic or cause complications.

About the therapies, the treatment of choice is complete surgical excision [7]. The advent of laparoscopy has allowed the excision of these cysts without laparotomy in the expert hands of surgeons with good experience in advanced laparoscopy. Laparoscopy is not a standard for the presence in the literature of only case reports.

Other techniques (aspiration, drainage, and marsupialization) have a high recurrence rate.

There are several case reports in literature like our article [8,9]. Laparoscopy is not a standard because in literature there were only case reports. Tebala et al. [8] described a case of a 58-year-old man underwent laparoscopic excision of a huge mesenteric chylous cyst. Abdominal ultrasonography, computed tomography, and a magnetic resonance scan revealed a circumscribed cyst measuring about 14 cm × 12 cm × 9 cm, containing a dense fluid with a high-fat content. This characters of the chylous cyst are different from these of simple (at liquid content) of our mesenteric cyst. Tebala used a placement of ports as like laparoscopic right hemicolectomy as in our case. Total operative time was 90 min. The postoperative period was uneventful, and the patient resumed oral food intake after 24 h and on postoperative day 3 the patient was discharged.

Instead, Ciulla et al. [9] reported two cases of mesenteric cysts that were excised by laparoscopic surgery using. The cysts of both patients were in the mesentery of colon like our case. There were no intraoperative or 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.

4. Conclusion

MC are commonly asymptomatic and discovered incidentally. Surgical excision is considered the cornerstone of therapy. Laparoscopic resection provides less pain, shorter postoperative stay, and recovery of the patient [8,9]. Further studies with a higher level of evidence are needed.

Declaration of Competing Interest

None.

Funding

None.

Ethical approval

None.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Dario Bono: Conceptualization, Methodology, Software, Data curation, Writing - Original draft preparation *Francesco Tomaselli, Rinaldo Caponi and Roberto Saracco*: Writing - Review and editing, Supervision and Project administration.

Registration of research studies

1. Name of the registry: Researchregistry.com
2. Unique identifying number or registration ID:6102

3. Hyperlink to your specific registration (must be publicly accessible and will be checked): <https://www.researchregistry.com/browse-theregistry#home/registrationdetails/5f82c82fe3a4ef001555983f/>

Guarantor

Dario Bono.

Provenance and peer review

Not commissioned, externally peer-reviewed.

Acknowledgement

This article is part of a supplement entitled Case reports from Italian young surgeons, published with support from the Department of Surgical, Oncological and Oral Sciences – University of Palermo.

References

- [1] B. Al Haifi Mohammed, M.A. Abdulsamad, A. Juma Talib, Laparoscopic excision of mesenteric cyst: case report, *Kuwait Med. J.* 39 (2) (2007), 167e169.
- [2] R.A. Agha, M.R. Borrelli, R. Farwana, K. Koshy, A. Fowler, D.P. Orgill, For the SCARE Group, The SCARE 2018 statement: updating consensus Surgical CAse REport (SCARE) guidelines, *Int. J. Surg.* 60 (2018) 132–136.
- [3] O.M. Beahrs, E.S. Judd Jr, M.B. Dockerty, Chylous cysts of the abdomen, *Surg. Clin. North Am.* 30 (1950), 1081e1096.
- [4] M. de Perrot, M. Bründler, M. Tötsch, G. Mentha, P. Morel, Mesenteric cysts. Toward less confusion? *Dig. Surg.* 17 (4) (2000) 323–328, <http://dx.doi.org/10.1159/000018872>.
- [5] C. Sevdener, T. Servet, et al., CT and MR imaging Features of a non pancreatic Pseudocyst of the mesentery, *Eur. J. Gen. Med.* 6 (1) (2009) 49–51.
- [6] *G Chir Vol. 35 - n. 11/12 - pp. 279-282, November-December 2014.*
- [7] T.D. Theodoridis, L. Zepiridis, D. Athanatos, F. Tzeveleakis, D. Kellartzis, J.N. Bontis, Laparoscopic management of mesenteric cyst: a case report, *Cases J.* 2 (2009) 132, <http://dx.doi.org/10.1186/1757-1626-2-132>, Published 2009 Feb 8.
- [8] G.D. Tebala, I. Camperchioli, et al., Laparoscopic treatment of a huge mesenteric chylous cyst, *JSLs* 14 (2010) 436–438.
- [9] A. Ciulla, G. Tomasello, et al., Laparoscopic treatment of mesenteric cysts. Report of two cases, *Ann. Ital. Chir.* 79 (2008) 63–65.

Open Access

This article is published Open Access at [sciencedirect.com](https://www.sciencedirect.com). It is distributed under the [IJSCR Supplemental terms and conditions](#), which permits unrestricted non commercial use, distribution, and reproduction in any medium, provided the original authors and source are credited.