ASYMPTOMATIC LARGE MESENTERIC LYMPHANGIOMA CYST

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Abstract

A mesenteric cyst is a cystic mass that appear on the gastrointestinal tract in the mesentery. It is a rare condition and was described for the first time in 1507. Most patients presents with a mass that occur progressively in the middle abdomen and mild abdominal pain. Many of this conditions are misdiagnosed preoperatively, like ovarian cyst, appendicitis, diverticulitis or alimentary tract duplication cysts due to lack of specific symptomatology. Whenever a cystic mass in the abdominal cavity is present, especially asymptomatic, a mesenteric cyst must be considered as well. We report a case of a child that presented in our clinic for mild abdominal distention without any other symptoms. Ultrasound and CT scan revealed a large abdominal cystic tumor occupying most of hypogastric space. It was misdiagnosed preoperatively as a possible ovarian cyst. Anyhow this patient was operated by robotic assisted surgery and definitive diagnostic was made – a mesenteric cystic lymphangioma.

Keywords: robotic surgery, lymphangioma, mesenteric cyst.

Introduction

Mesenteric cyst, was first described in 1507 by Antonio Benivieni on an 8 year old girl, during the autopsy. (1-11). Most of mesenteric cyst appear in small bowel mesentery. Lympahngioma cyst appear because lymphatic channels in the mesentery are obstructed. (12, 13) They are benign tumors. Most of them are asymptomatic, but abdominal pain and palpable mass in the middle abdomen are signs for this pathology. Other symptoms include constipation or loss of appetite. (14) A histologic examination confirm the cyst. Most of this tumors can be operated by laparoscopic or robotic-assisted surgery. The differential diagnosis is made with ovarian cyst, appendicitis, diverticulitis, gastrointestinal duplication cyst, enteric cyst, mesothelial cyst, cyst spindle cell tumors and cystic teratomas. (15)

Case report

An 8 year old female child presented in ambulatory with history of mild abdominal distension, without any another symptoms. At the psychical examination we only notice mild distention of hypogastric region. Ultrasonography revealed a flaccid mass filled with fluid in the lower abdomen. Blood tests was normal.

CT scan shows an oval fluid-filled mass in umbilical region, hypogastrium and right lower quadrant of 11,98 cm x 10,95 cm x 5,94 cm and set on the bladder dome (Figure 1).

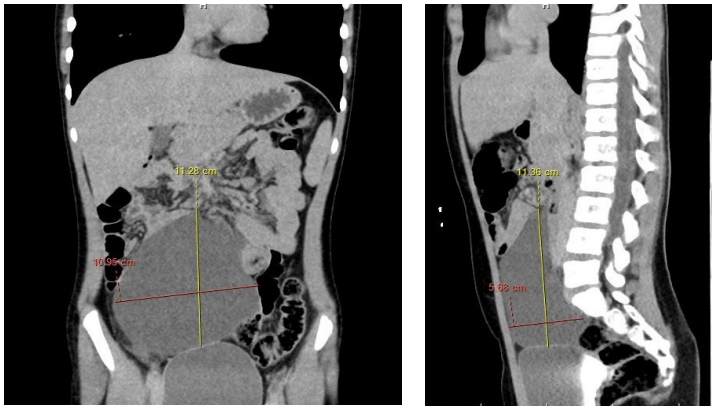

Figure.1 Computer tomography image of the cyst in sagittal and longitudinal section shows a fluid mass.

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After examination the patient was suspected for ovarian cyst. Was performed a robotic assisted surgical operation and was observed that the intra-abdominal mass does not communicate with ovary but originates in the mesentery of the first jejunal loop. The mass was punctured and a milky white fluid was evacuated as can be seen in the picture (Figure 2). The biochemical exam found lipase under the limit and triglycerides over the limit. The cyst was excized and send for histologically examination. The result of histologically exam was: cystic wall made of fibrous connective tissue and muscular fibers; vascular structure with fine wall, dilated and covered by broken epithelium inside the wall (Figure 3)

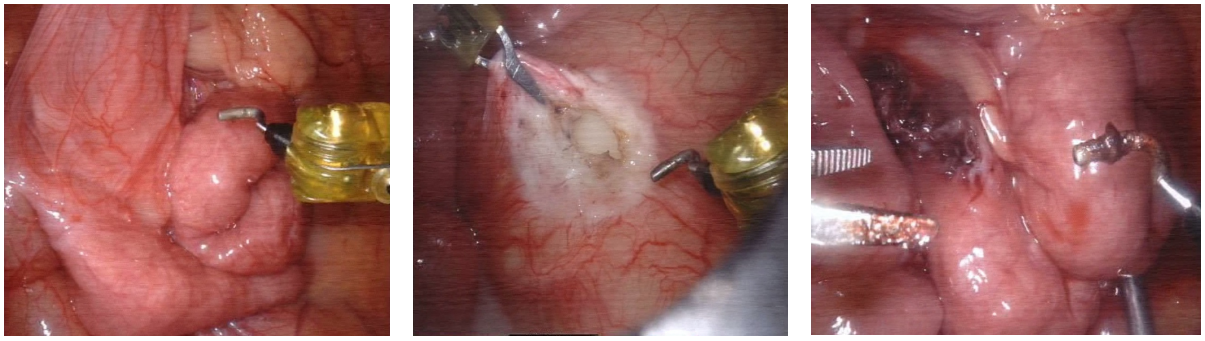

Figure 2. Intraoperative view of the cyst, from left to right: origin of the cyst at the first jejunal loop mesentery; after opening the cyst, the content is a milky fluid which at examination was lymph and last, the view after excision.

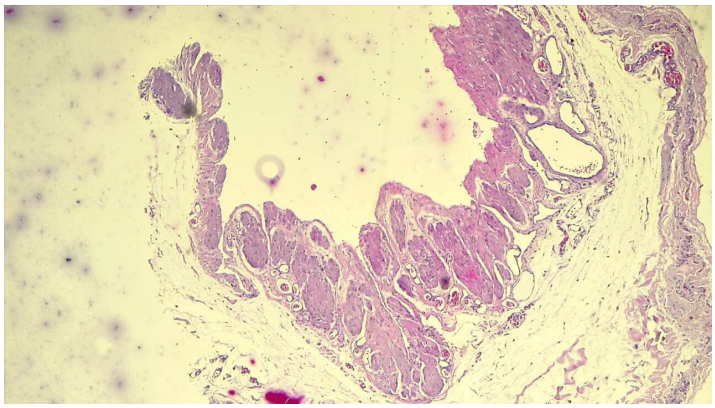

Figure 3. Hematoxylin-eosin histologic examination of the cyst.

Discussions

Abdominal cystic lymphangiomas are a rare pathology, with an incidence of 1 in 20.000-250.000. (1) Obstruction of the lymphatic ducts between the lymphatic system of the small bowel and the main lymphatic vessels lead to formation of a lymphatic cyst. Irregular wall tapped by endothelium that has muscle, foam cells and lymphatic tissue are described. (2)

The abdominal lymhpangioma is most of the time asymptomatic. Patient come to the doctor for abdominal pain or another digestive signs, like vomiting, diarrhea and constipation, many of these unrelated to the lymphangioma. At clinical examination can be noted a mobile mass, soft and painless in 58% of cases. (3,4). Our patient come to the hospital for middle abdominal distension, without any another signs. At psychical examination the cyst could not be palpated due to its flaccid consistency.

Alimentary tract duplication cysts, neuro-enteric cysts, mesothelial cysts, spindle cell tumors and cystic teratomas are the differential diagnosis of lymphangiomas cyst. (5) In this case the patient was misdiagnosed preoperatively as an ovarian cyst due to the fact that the cyst was large, flaccid and prolabated in the hypogastrium. Clear diagnosis preoperatively is hard to establish in this pathology because the mesenteric cyst does not have specific signs or symptoms.

CT scan and ultrasonography are sensitive, but it is not enough to make a preoperative diagnosis. (6) In this case the ultrasonography and computer tomography concluded to a possible ovarian cyst, that was invalidated at

the time of operation. Anyhow, imagistic investigations are very useful to judge if the cyst is broken or intact.

Treatment of the mesenteric cysts is excision, which require bowel resection in some cases. (7) J.E Losanoff and co-authors write in their article that the cyst must be excision because there is a risk of recurrence and malignant transformation, after radiotherapy for a primary lesion. This author classify mesenteric cyst in four classes. Type 1 is a pedunculated cyst, in second type is sessile, in third type is extended to retroperitoneum and in the last type is multi-cystic lesion. First and second types can be treated by complete excision, but second type can require sometimes bowel resection. In third type excision is often incomplete, and the last type may require sclerotherapy or more than one operation. (8) In our case the cyst was type 2 and was performed excision without bowel resection.

In an article, Durar R. et all described a technique named, spaghetti technique" that is useful to minimize blind zone in laparoscopy. The principle of this technique is to twist the cyst on the laparoscopic instrument. (9,10) In our case the use of robotic arms gave a very precise dissection view but this principle is a very good option for big cysts that cover most of laparoscopic view.

Conclusions

Lymphangioma cyst with abdominal localization is a pathology that has not specific signs. Pain and palpable mass can be the first signs. Because the middle abdominal distention was the only sign in our case, we conclude that is important to be investigated by ultrasound any abdominal distention. Misdiagnosis is a very often in abdominal lymphangioma cyst because there are few specific symptoms. Surgical excision is the best therapeutic treatment.

Excision of lymphangiomas is not an emergency, complete excision with or without intestinal resection is gold standard. Best approach is laparoscopic or robotic assisted laparoscopy, but with a higher cost.

References

1. R.J. Kurtz, T.M. Heimann, J. Holt, A.R. Beck Mesenteric and retroperitoneal cysts Ann Surg, 203 (1986), pp. 109-112
2. Alqahtani, L.T. Nguyen, H. Flageole, K. Shaw, J.M. Laberge 25 years' experience with lymphangiomas in children J Pediatr Surg, 34 (1999), pp. 1164-1168
3. V.B. Weeda, K.A. Booij, D.C. Aronson Mesenteric cystic lymphangioma: a Congenital and an acquired anomaly? Two cases and a review of the literature J Pediatr Surg, 43 (2008), pp. 1206-1208
4. E.I. Egozi, R.R. Ricketts Mesenteric and omental cysts in children Am Surg, 63 (1997), pp. 287-290
5. O. Konen, V. Rathaus, E. Dlugy, E. Freud, A. Kessler, M. Shapiro, G. Horev Childhood abdominal cystic lymphangi-oma Pediatr Radiol, 32 (2002), pp. 88-94
6. K. Siddique, S. Bhandari, S. Basu Giant mesenteric lymphangioma: a rare cause of a life-threatening complication in an adult BMJ Case Rep (2010 Sep 7)
7. Prakash A, Agrawal A, Gupta RK, Sanghvi B, Parelkar S. Early management of mesenteric cyst prevents catastro-phes: a single centre analysis of 17 cases. Afr J Paediatr Surg 2010;7:140e3.
8. J.E. Losanoff, B.W. Richman, A. El-Sherif, K.D. Rider, J.W. Jones Mesenteric cystic lymphangioma J Am Coll Surg, 196 (2003), pp. 598-603
9. Durai R, Ng PC. "Spaghetti technique" e novel technique to facilitate laparo- scopic appendicectomy and cholecyste tomy. J Laparoendosc Adv Surg Tech A 2009;19:667e8.
10. MarteA,CavaiuoloS,PintozziL,PreziosoM,NinoF,CoppolaS,etal."Spaghetti maneuver": a useful tool in pediatric la aroscopy e our experience. Afr J Paediatr Surg 2011;8:252e5.
11. Mohanty SK, Bal RK, Maudar KK. Mesenteric cyst e an unusual presentation. J Pediatr Surg 1998;33:792e3.
12. B.K. Goh, Y.M. Tan, H.S. Ong, C.H. Chui, L.L. Ooi, P.K. Chow, C.E. Tan, W.K. Wong Intra-abdominal and retro-peritoneal lymphangiomas in pediatric and adult patients World J Surg, 29 (2005), pp. 837-840
13. A. Alqahtani, L.T. Nguyen, H. Flageole, K. Shaw, J.M. Laberge 25 years' experience with lymphangiomas in chil-dren. J Pediatr Surg, 34 (1999), pp. 1164-1168
14. V.B. Weeda, K.A. Booij, D.C. Aronson Mesenteric cystic lymphangioma: a Congenital and an acquired anomaly? Two cases and a review of the literature J Pediatr Surg, 43 (2008), pp. 1206-1208
15. O. Konen, V. Rathaus, E. Dlugy, E. Freud, A. Kessler, M. Shapiro, G. Horev Childhood abdominal cystic lymphan-gioma Pediatr Radiol, 32 (2002), pp. 88-94

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