The Cystic Mesothelioma

CASE REPORT

Abstract

Introduction: The cystic mesothelioma of the peritoneum (MCP) is a rare disease, with few reported cases. The first description was made by Smith and Mennemeyer in 1979. It is an intra-abdominal tumor that occurs most frequently in women of reproductive age.

Objective: To describe the case of Mesothelioma Cystic the peritoneum due to rarity of this tumor, the similarity of their symptomatic presentation with other diseases, the lack of specific symptoms and characteristics of imaging and its diagnosis difficult, based on postoperative histological findings.

Case report: A 45 years old and female, presented abdominal pain in the right upper quadrant lasting 6 months. During investigation was evidenced in computerized tomography a massive hypodense formation, net multiseptada. Its surgical hysterectomy for uterine perforation history. Forwards for surgery with macroscopic findings of retroperitoneal cystic lesion, complex and voluminous suggestive of Mesothelioma Cystic peritoneal.

Conclusion: This tumor is known for its local recurrence, and surgery was the only effective treatment.

Jéssica Cosme da Silva¹,
Marco Antonio Bezerra Rulim²,
Roberto de Souza Mendonça²,
Alisson Cordeiro Moreira¹,
Ana Lais Lacerda Rulim¹,
Ítalo Cordeiro Moreira¹,
Gilberto de Alencar Nunes²,
Hermes Melo Teixeira Batista³,
George Nilton Mendes Nunes¹,
Vitor Engracia Valenti⁴,
Italla Maria Pinheiro Bezerra³,
Luiz Carlos de Abreu³

¹ Estácio FMJ, Juazeiro do Norte, Ce, Brazil.

² HMSVP, Barbalha, Ce, Brazil.

³ Laboratory Design and Scientific writing,
Department of basic sciences FMABC, Santo
André, SP, Brazil.

⁴ FFC/UNESP

Contact information:

Luiz Carlos de Abreu.

✉ luizcarlos@usp.br

Keywords

Cystic mesothelioma,
peritoneum, case report.

Introduction

The Peritoneal Cystic Mesothelioma was first described by Mennemeyer and Smith as a rare intra-abdominal tumor with preference for peritoneum of pelvic organs [1].

The Peritoneal Cystic Mesothelioma has a high rate of local [2] recurrence, being often necessary the use of new surgical approaches for a new resection. Incidence rates are higher in women (70%) than in men (30%) [3], as well as the recurrence (40-50%) and (33%) respectively.

It has a nonspecific clinical presentation, usually developing with abdominal or pelvic pain, chronic or intermittent distension, abdominal mass or palpable mass within the pelvis, increased waist circumference and constipation [4, 5]. The differential diagnosis is broad, including cystic lymphangioma (CL), mucinous cystadenoma, cystic teratoma and retroperitoneal pseudomyxoma [6].

The diagnosis is usually occasional, achieved very late and most often occurs in the course of investigation or surgical treatment for acute abdomen [7]. Thus, this report aims to describe a case of Peritoneal Cystic Mesothelioma, because of the rarity of this tumor, the similarity of its symptomatic presentation with other diseases, the lack of specific symptoms and characteristics of imaging tests, besides its difficult diagnosis, confirmed only in postoperative histological findings.

Case report

A 45 years old patient, female, reported abdominal pain in the right hypochondrium for about 6 months and during diagnostic investigation after a tomography of the upper abdomen a massive hypodense formation was found, multiseptate cyst containing liquid, measuring approximately 12.00 x 10.00 cm, occupying the hepatorenal recess (Morison's pouch), which may correspond to mucinous pseudomyxoma (**figure 1** and **figure 2**). She has past history of hysterectomy realized because of uterine perforation. Consequently she was referred to have a surgery performed for tumor resection and macroscopic findings of complex and bulky retroperitoneal cystic lesions, in contact with right and transverse colon, liver, right kidney and stomach. A bilateral oophorectomy was performed, appendectomy and resection of retroperitoneal injury. The histopathological analysis evidenced a multilocular cystic mesothelioma without angiolymphatic invasion and necrosis, and appendix showing lymphoid hyperplasia with nonspecific reaction (**figure 3**

and **figure 4**). The patient was monitored for a year in the oncology clinic and developed a clinical improvement, uneventfully and without recurrence of the cyst.

Figure 1: Tomography of the upper abdomen a massive hypodense formation was found, multiseptate cyst containing liquid, measuring approximately 12.00 x 10.00 cm.

Figure 2: Tomography of the upper abdomen a massive hypodense formation was found, multiseptate cyst containing liquid, measuring approximately 12.00 x 10.00 cm.

Figure 3: Histopathological analysis evidenced a multilocular cystic mesothelioma without angiolymphatic invasion and necrosis.

Figure 4: Histopathological analysis evidenced a multilocular cystic mesothelioma without angiolymphatic invasion and necrosis.

Discussion

The peritoneal cystic mesothelioma was described for the first time by Henke in 1889 as a "tumor, a multiple cystic lymphangioma"[4], therefore in 1979 Mennemeyer and Smith determined its mesothelium origin [1] and started to call it benign cystic mesothelioma in 1980 by Moore, et al [5]. Safioleas's review of literature performed in 2006 found 130 described cases [6]. After searching in PubMed with this article as a starting point, it was found another 42 new reported cases, making a total of 173 cases when included the case reported here. (Table 1).

Its clinical presentation is nonspecific, such as abdominal or pelvic pain, abdominal tenderness, chronic or intermittent distension, abdominal or pelvic mass, increased waist circumference and constipation, as in the case reported [7, 8]. Hicham Elbouhaddouti, et al. described a similar case in 2013, in which the patient presented abdominal pain, increased waist circumference and constipation [9]. The differential diagnosis is broad, including cystic lymphangioma, mucinous cystadenoma, cystic teratoma and retroperitoneal pseudomyxoma. [1]

The pathogenesis is still unclear, however, as most of the cases already reported occurred in women of reproductive age, it is believed that female hormones play a role in its pathogenesis [10, 11]. Some authors relate it with neoplastic lesion, while others connect it to a reactive process [12-16], relating it to inflammation, previous history of surgery, endometriosis or uterine leiomyoma, suggesting that it is probably a peritoneal reaction to stimuli caused by chronic irritation, with interspersed mesothelium cells, reactive proliferation and cystic formation [17]. As described by Safioleas, a woman of 62 years old had history of a hysterectomy procedure performed five years before the appearance of the peritoneal cystic mesothelioma [6]. In the reported case, the patient also had previous hysterectomy.

Table 1. Review of the literature (2006-2015).

Year	Authors	Number of cases	Sex
2015	Yeom S, Son T, Hong YO. Complicated benign cystic mesothelioma of mesoappendix misdiagnosed as an appendiceal abscess in a postpartum period woman. <i>Ann Surg Treat Res.</i>	1	Female
2014	Campbell B1, Mehanna D, Stone J.. Benign multicystic peritoneal mesothelioma: a rare cause of intra-abdominal cystic disease. <i>ANZ J Surg.</i>	1	Female
2014	Murro D1, Harbhajanka A, Mahon B, Deziel D. Benign cystic mesothelioma associated with ipsilateral renal agenesis: a case report and review of literature. <i>Pediatr Dev Pathol.</i>	1	Male
2014	Al-Safi ZA1, Edil BH, Post MD, Pearlman NW, Alvero R. Fertility preservation in a patient with benign multicystic peritoneal mesothelioma. <i>J Surg Oncol.</i>	1	Female
2014	Momeni M1, Pereira E1, Grigoryan G1, Zakashansky K1.. Multicystic benign cystic mesothelioma presenting as a pelvic mass. <i>Case Rep Obstet Gynecol</i>	1	Female
2014	Witek TD1, Marchese JW, Farrell TJ. A recurrence of benign multicystic peritoneal mesothelioma treated through laparoscopic excision: a case report and review of the literature. <i>Surg Laparosc Endosc Percutan Tech.</i>	1	Female
2013	Gupta A1, Rao HK2, Pande R2, Gupta S2. A rare case of benign multicystic peritoneal mesothelioma: a clinical dilemma. <i>Indian J Surg.</i>	1	Female
2013	Wang TB1, Dai WG, Liu DW, Shi HP, Dong WG. Diagnosis and treatment of benign multicystic peritoneal mesothelioma. <i>World J Gastroenterol.</i>	1	Male
2013	Singh A1, Chatterjee P, Pai MC, Chacko RT. Multicystic peritoneal mesothelioma: not always a benign disease. <i>Singapore Med J.</i>	1	Female
2013	Canbay E1, Ishibashi H, Sako S, Kitai T, Nishino E, Yonemura Y. Late recurrence of benign multicystic peritoneal mesothelioma complicated with an incisional hernia. <i>Case Rep Surg.</i>	1	Female
2012	Zorica Stojic, Radmila Jankovic, Branislav Jovanovic, Dragana Vujovic, Bojan Vucinic, Dragoljub Bacetic Benign cystic mesothelioma of the peritoneum in a male child <i>Journal of Pediatric Surgery,</i>	1	Male
2012	Khuri S, Gilshtein H, Abboud W, Assalia A, Kluger Y Benign cystic mesothelioma of the peritoneum: a rare case and review of the literature. <i>Case Rep Oncol.</i>	1	Male
2012	Vyas D, Pihl K, Kavuturu S, Vyas A. Mesothelioma as a rapidly developing Giant Abdominal Cyst. <i>World J Surg Oncol.</i>	1	Male
2012	Stojic Z, Jankovic R, Jovanovic B, Vujovic D, Vucinic B, Bacetic D. Benign cystic mesothelioma of the peritoneum in a male child. <i>J Pediatr Surg.</i>	1	Male
2012	Dellaportas D, Kairi-Vassilatou E, Lykoudis P, Mavrigiannaki P, Mellou S, Kleanthis CK, Kondi-Pafiti A. Peritoneal mesotheliomas mimicking adnexal tumors. Clinicopathological characteristics of four cases and a short literature review. <i>Eur J Gynaecol Oncol.</i>	4	Female
2012	Lari F, Castelli G, Bragagni G. Recenti. Benign multicystic peritoneal mesothelioma. A case report. <i>Prog Med.</i>	1	Female
2012	Husain A, Ozdemirli M.. Benign multicystic mesothelioma with concurrent colonic adenocarcinoma: a report of two cases. <i>Surg Today</i>	2	Female
2011	Sizzi O, Rosetti A, Torcia F, Lo Cane F, Loddo A.. Laparoscopic treatment of benign multicystic mesothelioma. <i>J Minim Invasive Gynecol</i>	1	Female

Year	Authors	Number of cases	Sex
2011	Shakya VC, Agrawal CS, Karki S, Sah PL, Poudel P, Adhikary S. Benign cystic mesothelioma of the peritoneum in a child-case report and review of the literature. J Pediatr Surg	1	Female
2011	Akbayir O1, Gedikbasi A, Akyol A, Numanoglu C, Koroglu N, Gulkilik A. Benign cystic mesothelioma: a case series with one case complicated by pregnancy. J Obstet Gynaecol Res.	3	Female
2011	Testa AC, Zannoni GF, Ferrari S, Lecca A, Marana E, Marana R. Benign cystic peritoneal mesothelioma incorrectly diagnosed as an ovarian borderline mucinous tumor of intestinal type at transvaginal preoperative ultrasound evaluation. Ultrasound Obstet Gynecol.	1	Female
2011	Cavallaro A1, Berretta M, Lo Menzo E, Cavallaro V, Zanghi A, Di Vita M, Cappellani A. Cystic peritoneal mesothelioma: report of a case. Surg Today.	1	Female
2010	O'Connor DB, Beddy D, Aremu MA.. Benign cystic mesothelioma of the appendix presenting in a woman: a case report. J Med Case Rep	1	Female
2010	Pitta X, Andreadis E, Ekonomou A, Papachristodoulou A, Tziouvaras C, Papapaulou L, Sapidis N, Chrisidis TJ Benign multicystic peritoneal mesothelioma: a case report. Med Case Rep.	1	Female
2010	Kemp AM, Nayar R, De Frias D, Lin X. Cytomorphologic characteristics of fine needle core biopsy of multicystic peritoneal mesothelioma: a case report and review of the literature. Diagn Cytopathol.	1	Female
2010	Limone A, Maier J, Chiantera V, Elezkurtaj S, Foss HD, Schneider A. Laparoscopic excision of a benign peritoneal cystic mesothelioma. Arch Gynecol Obstet.	1	Female
2009	Koo PJ1, Wills JS.. Case 146: Benign multicystic mesothelioma. Radiology	1	Female
2009	Terry NE1, Fowler CL. Benign cystic mesothelioma in a child. J Pediatr Surg.	1	Male
2009	Farr R. Nezhat , Shaghyegh M. DeNoble, Douglas N. Brown, Amir Shamshirsaz, Daniela Hoehn, Laparoscopic Management of Peritoneal Mesothelioma Associated with Pelvic Endometriosis Global Congress of Minimally Invasive Gynecology, Orlando, Florida.	3	Female
2008	Stroescu C, Negulescu R, Herlea V, David L, Ivanov B, Nitipir C, Popescu I. Recurrent benign cystic peritoneal mesothelioma. Chirurgia (Bucur).	1	Female
2008	Chammakhi-Jemli C, Ben Hassine L, Dahmani Z, Khelifi S, Labbène N, Mzabi H, Shili-Briki S, Daghfous MH Benign cystic mesothelioma of the peritoneum. Tunis Med.	1	Female
2008	Asghar S, Qureshi N, Awan A. Benign mesothelioma of peritoneum presenting as a pelvic mass. J Coll. Physicians Surg Pak.	1	Female
2007	Saad S, Brockmann M, Maegele M. Benign peritoneal multicystic mesothelioma diagnosed and treated by laparoscopic surgery. J Laparoendosc Adv Surg Tech A.	1	Female
2006	Coskun A, Guven MA, Ozdemir O, Cirakli H, Karakus S. Benign cystic mesothelioma presenting as a huge pelvic mass--a case report. Eur J Gynaecol Oncol.	1	Female

Benign cystic mesothelioma (BCM) is a rare tumor that arises from the abdominal peritoneum with a predilection to the pelvic peritoneum. BCM occurs five times more often in women than in men [5]. The mean age of patients is 37-38 years at the time of diagnosis [5]. Most patients present acute or chronic abdomen/pelvic discomfort, and palpable masses in the abdomen. However, BCM has also been found incidentally during imaging or laparotomy. Patients with BCM had a previous history of abdominal operations (42%), pelvic inflammatory disease (14%), or endometriosis (7%) [8].

It is considered a benign tumor [1, 18], with good prognosis [19], with only one death reported in the literature, in which the patient did a partial resection of the abdominal mass, and died 12 years later [20], after refusing to do another surgery due to recurrence [21].

The best treatment according to some authors is to have surgical procedure, with complete enucleation of the cyst to avoid possible recurrence and malignant transformation [22] that can be carried out by laparotomy or laparoscopy [23].

The majority of the patients show a clinical scenario of nonspecific abdominal pain or pelvic discomfort and palpable masses in the abdomen. It often can be found by chance during laparoscopy or laparotomy. Patients with benign cystic mesothelioma (BCM) usually present previous history of abdominal surgery (42%), pelvic inflammatory disease (14%), or endometriosis (7%). Clinical condition is compatible with the described in this case.

Conclusion

Benign cystic mesothelioma (BCM) is a rare tumor of the abdominal peritoneum with preference for the pelvic region. Benign cystic mesothelioma presents five times higher incidence in women of reproductive age.

The recurrence rate of multilocular cystic mesothelioma after complete resection is of about 50%, and the goal should not be the cure, but symptomatic relief associated with radiological review, always individualizing the treatment and analyzing other complications. The patient of the described case developed with no complaints to date and she continues under outpatient monitoring and received orientation to the possibility of relapse despite the benign nature of the condition.

Financiament

Own financiament.

Ethical Aspects

The project was submitted to the Ethics Committee of the local hospital.

Consent

The patient wrote informed consent for scientific use, included publication the case report.

Competing interests

All authors declared that they have no competing interests.

Authors' contributions

All authors contributed in the elaborations and written of the manuscript and read and approved the final manuscript.

References

1. Mennemeyer R, Smith M: Multicystic peritoneal mesothelioma: a report with electron microscopy of a case mimicking intraabdominal cystic hygroma (lymphangioma). *Cancer* 1979, 44: 692-698.
2. Schwartz AT, Peycru E, Tardat JP, Dufau J, Jarry F, Durand-Dastes: Le mésothéliome kystique péritonéal: bénin ou malin ? *J Chir* 2008, 145: 8.
3. Canty MD, Williams J, Volpe RJ, et al: Benign cystic mesothelioma in amale. *Am J Gastroenterol* 1990, 85: 311-15.
4. Baddoura FK, Varma VA: Cytology of multicystic peritoneal mesothelioma. *Acta Cytol* 1990, 34: 524-528.
5. Moore JH, Crum CP, Chandler JG, Feldman PS: Benign cystic mesothelioma. *Cancer* 1980, 45: 2395-2399.
6. Safioleas, Michael C, Kontzoglou Constantinos, Stamatakis Michael, Giaslakitotis Konstantinos, Safi oleas Constantinos, Kostakis Alkiviadis Benign multicystic peritoneal mesothelioma: A case report and review of the literature *World J Gastroenterol* 2006 September 21; 12(35): 5739-5742.
7. Pelosil G, Zannonil M, Caprioli F, Faccincani L, Battistoni MG, Balercia G, Bontempini L: Benign multicystic mesothelial proliferation of the peritoneum: Immunohistochemical and electron microscopical study of a case and review of the literature. *Histol Histopath* 1991, 6: 575-583.

8. Pitta X, Andreadis E, Ekonomou A, Papachristodoulou A, Tziouvaras C, Papapoulou L, Sapidis N, Chrisidis T. Benign multicystic peritoneal mesothelioma: a case report. *J Med Case Rep* 2010; 4: 385.
9. Hicham Elbouchdouti*, Abdesslam Bouassria, Ouadii Mouaqit, El Bachir Benjelloun, Abdelmalek Ousadden, Khalid Mazaz and Khalid Ait Taleb. Elbouchdouti et al. Benign cystic mesothelioma of the peritoneum: a case report and literature review *World Journal of Emergency Surgery* 2013, 8: 43 <http://www.wjes.org/content/8/1/43>.
10. Kemp AM, Nayar R, De Frias D, Lin X. Cytomorphologic characteristics of fine needle core biopsy of multicystic peritoneal mesothelioma: a case report and review of the literature. *Diagn Cytopathol* 2010; 38: 192-197.
11. Pinto V, Rossi AC, Fiore MG, D'Addario V, Cicinelli E. Laparoscopic diagnosis and treatment of pelvic benign multicystic mesothelioma associated with high CA19.9 serum concentration. *J Minim Invasive Gynecol* 2010; 17: 252-254.
12. Weiss SW, Tavassoli FA. Multicystic mesothelioma. An analysis of pathologic findings and biologic behavior in 37 cases. *Am J Surg Pathol* 1988; 12: 737-746.
13. Katsube Y, Mukai K, Silverberg SG. Cystic mesothelioma of the peritoneum: a report of five cases and review of the literature. *Cancer* 1982; 50: 1615-1622.
14. McFadden DE, Clement PB. Peritoneal inclusion cysts with mural mesothelial proliferation. A clinicopathological analysis of six cases. *Am J Surg Pathol* 1986; 10: 844-854.
15. Ross MJ, Welch WR, Scully RE. Multilocular peritoneal inclusion cysts (so-called cystic mesotheliomas). *Cancer* 1989; 64: 1336-1346.
16. Scucchi L, Mingazzini P, Di Stefano D, Falchi M, Camilli A, Vecchione A. Two cases of "multicystic peritoneal mesothelioma": description and critical review of the literature. *Anticancer Res* 1994; 14: 715-720.
17. Curgunlu A, Karter Y, Tufekci IB, Tunckale A, Karahasanoglu T. Benign cystic mesothelioma: a rare cause of ascites in a case with familial Mediterranean fever. *Clin Exp Rheumatol* 2003; 21: S41-43.
18. Van Ruth S, Bronkhorst MWGA, Van Coeverden F, et al. Peritoneal benign cystic mesothelioma: a case report and review of literature. *Eur J Surg Oncol* 2002, 28: 192-195.
19. Bhandarkar DS, Smith VJ, Evans DA, Taylor TV. Benign cystic peritoneal mesothelioma. *J Clin Pathol* 1993, 46: 867-868.
20. Schwartz AT, Peycru E, Tardat JP, Dufau J, Jarry F, Durand-Dastes: Le mésothéliome kystique péritonéal: bénin ou malin ? *J Chir* 2008, 145: 8.
21. Raafat F, Egan M: Benign cystic mesothelioma of peritoneum. Immunohistochemical and Ultrastructural features in a child. *Paediatr Pathol* 1988, 8: 321-9.
22. Burkett JS, Pickleman J: The rationale for surgical treatment of mesenteric and retroperitoneal cysts. *Am Surg* 1994, 60: 432-435.
23. Vu JH, Thomas EL, Spencer DD: Laparoscopic management of mesenteric cyst. *Am Surg* 1999, 65: 264-265.

Comment on this article:

<http://medicalia.org/>

Where Doctors exchange clinical experiences, review their cases and share clinical knowledge. You can also access lots of medical publications for free. **Join Now!**

Publish with iMedPub

<http://www.imed.pub>

International Archives of Medicine is an open access journal publishing articles encompassing all aspects of medical science and clinical practice. IAM is considered a megajournal with independent sections on all areas of medicine. IAM is a really international journal with authors and board members from all around the world. The journal is widely indexed and classified Q1 in category Medicine.