

Case report



Appendiceal mucocele simulating an ovarian tumor: a case report

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Appendiceal mucocele simulating an ovarian tumor: a case report

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Abstract

Appendiceal mucocele is rare, observed in 0.2 to 0.6% of appendectomy specimens. The average age is about 50 to 60 years old with female predominance. Causes of appendiceal mucocele are multiple. Histologically, lesions are limited to mucosa. Treatment is based on surgery by classical appendectomy while avoiding cellular dissemination. The prognosis of benign cases is excellent after complete resection with 5-years survival in approximately 100%. We report the case of a 54-year-old woman, menopausal, presenting isolated chronic pelvic pain. After all investigations, diagnosis was made during the surgical intervention and histopathological examination confirmed appendiceal mucocele.

Introduction

Appendiceal mucocele is a rare entity that is characterized by cystic dilatation in the lumen of the appendix. The diagnosis is often made based on clinical signs and symptoms of acute appendicitis or coincidentally via imaging methods when it is asymptomatic. However, a definitive diagnosis can be rarely made before surgery despite all technical progress in terms of imaging. It may be encountered during abdominal surgery performed for another indication.

Patient and observation

A 54-year-old woman, menopausal, presented to Department of Gynecology for isolated chronic pelvic pain. Gynecological examination revealed latero-uterin mass, firm, movable and well limited. Vaginal ultrasonography revealed heterogeneous mass measuring about 60mm with both solid and cystic components, without suspicious vascularity at color Doppler. The MRI revealed suspicious-loading vegetations within the mass (Figure 1, Figure 2). The patient underwent diagnostic laparoscopy that revealed an appendiculus mass measuring 120mm of major axe. Surgical intervention had been converted to laparotomy with appendectomy (Figure 3, Figure 4). Histopathological examination revealed morphological aspect of appendicular mucinous adenoma.

Discussion

Appendiceal mucocele is a descriptive term referring to distention of the appendix with mucus, which develops secondary to mucinous cystadenoma (63%), mucosal hyperplasia (25%), mucinous cystadenocarcinoma (11%) and retention cysts (1%) of the appendix lumen [1]. Mucocele may also develop when the lumen is obstructed due to endometriosis or carcinoid tumors. It is reported that the incidence of appendiceal mucocele in appendectomy specimens ranges from 0.2 to 0.3 % [2]. Patients are generally above the

age of 50, and this condition is four times more common among women [3]. Approximately 25-30% of the patients are symptomatic, and it is accidentally found out during radiological investigation, endoscopic examinations or open surgery [2,4]. The most frequent symptoms in patients with symptomatic appendiceal mucocele is acute or chronic lower right quadrant pain [3]. The mass may be palpated in the lower right quadrant in approximately 50% of the patients [5]. Other symptoms include nausea, vomiting and change in bowel habits [6]. It is quite difficult to make a definitive diagnosis of appendiceal mucocele before surgery as it has non-specific symptoms [7]. Ultrasonography (US) and computerized tomography (CT) may aid in diagnosis. It is generally hypoechoogenic on US, yet echogenicity may also be observed depending on the length of acoustic interfaces caused by the mucus. The onion skin-like appearance is specific for appendiceal mucocele [8]. Computerized tomography (CT) is more sensitive in detecting and assessing appendiceal mucoceles. On CT scan, it is observed in the form of a cystic, encapsulated mass with a thin wall, which sometimes has mural calcifications, in the appendix site [9].

There may be synchronous neoplasms with the appendiceal mucocele [10,11]. The most frequent is that of the colon, but it may also be present in other areas such as gall bladder, breast, kidney, ovary and thyroid. In 19.4%-25.4% of the cases, appendiceal mucocele was associated with colon adenocarcinoma [10]. For that reason, patients with appendiceal mucocele should be carefully assessed with focus on the colon neoplasms. The treatment for appendiceal mucocele is surgical. Surgery may be performed via laparoscopy or laparotomy. Preoperatively, surgeon should be aware of the mucocele rupture risk to avoid careless manipulation during surgery; otherwise, a possible rupture during surgery may cause pseudomyxoma peritonei. The 5-year-survival rate with pseudomyxoma peritonei due to mucinous cystoadenocarcinoma may decrease to 20% [12]. Therefore, some publications oppose the use of laparoscopy in mucocele surgery, whereas other

publications assert that laparoscopic surgery can be successfully performed [13,14]. The reported case findings and literature indicate that there is no contraindication for laparoscopy in appendiceal mucocele surgery. However, necessary precautions had better be taken to prevent its rupture during laparoscopy [14].

Conclusion

Appendiceal mucocele is a rare entity with no specific clinical presentation. This makes preoperative diagnosis difficult. Appendiceal mucocele is to be evocated particularly in an elderly woman with an atypical mass like-appearance on US. For patients presenting Appendiceal mucocele, laparoscopic excision performed carefully, following diagnostic laparoscopy is a viable option. In addition, appendiceal mucocele is often associated with colon cancer. Thus, surgeons should manage this case considering the possible concomitance.

Competing interests

The authors declare no competing interests.

Authors' contributions

All the authors have read and agreed to the final manuscript.

Figures

Figure 1: sagittal MRI showing hyperintense rounded mass with vegetations

Figure 2: transversal MRI showing hyperintense rounded mass

Figure 3: macroscopic aspect of appendiculus mass

Figure 4: macroscopic aspect showing the size of the mass

References

1. Bartlett C, Manoharan M, Jackson A. Mucocele of the appendix - a diagnostic dilemma: a case report. *J Med Case Rep.* 2007;1: 183. **PubMed | Google Scholar**
2. Dachman AH, Lichtenstein LE, Friedman AC. Mucocele of the appendix and pseudomyxoma peritonei. *Am J Roentgenol.* 1985 May;144(5): 923-9. **PubMed | Google Scholar**
3. Minni F, Petrella M, Morganti A, Santini D. Giant mucocele of the appendix. *Dis Colon Rectum.* 2001 Jul;44(7): 1034-6. **PubMed | Google Scholar**
4. Soweid AM, Clarkston WK, Andrus CH, Jannet CG. Diagnosis and management of appendiceal mucoceles. *Dig Dis.* 1998;16(3): 183-6. **PubMed | Google Scholar**
5. Coulier B, Pestieau S, Hamels J, Lefebvre Y. US and CT diagnosis of complete cecocolic intussusception caused by an appendiceal mucocele. *Eur Radiol.* 2002 Feb;12(2): 324-8. **PubMed | Google Scholar**
6. Carr NJ, McCarthy WF, Sobin LH. Epithelial non carcinoid tumors and tumor-like lesions of the appendix. A clinicopathologic study of 184 patients with a multivariate analysis of prognostic factors. *Cancer.* 1995 Feb 1;75(3): 757-68. **PubMed | Google Scholar**
7. Shukunami K, Kaneshima M, Kotsuji F. Preoperative diagnosis and radiographic findings of a freely movable mucocele of the vermiform appendix. *Can Assoc Radiol J.* 2000 Oct;51(5): 281-2. **PubMed | Google Scholar**
8. Caspi B, Cassif E, Auslender R, Herman A, Hagay Z, Appelman Z. The onion skin sign: a specific sonographic marker of appendiceal mucocele. *J Ultrasound Med.* 2004 Jan;23(1): 117-21. **PubMed | Google Scholar**

9. Fujiwara T, Hizuta A, Iwagaki H, Matsuno T, Hamada M, Tanaka N *et al*. Appendiceal mucocele with concomitant colonic cancer. Report of two cases. *Dis Colon Rectum*. 1996 Feb;39(2): 232-6. **PubMed** | **Google Scholar**
10. Pitiakoudis M, Tsaroucha AK, Mimidis K, Polychronidis A, Minopoulos G, Simopoulos C. Mucocele of the appendix: a report of five cases. *Tech Coloproctol*. 2004 Aug;8(2): 109-12. **PubMed** | **Google Scholar**
11. Moreno SG, Shmookler BM, Sugarbaker PH. Appendiceal mucocele. Contraindication to laparoscopic appendectomy. *Surg Endosc*. 1998 Sep;12(9): 1177-9. **PubMed** | **Google Scholar**
12. Chiu CC, Wei PL, Huang MT, Wang W, Chen TC, Lee WJ. Laparoscopic resection of appendiceal mucinous cystadenoma. *J Laparoendosc Adv Surg Tech A*. 2005 Jun;15(3): 325-8. **PubMed** | **Google Scholar**
13. Navarra G, Asopa V, Basaglia E, Jones M, Jiao LR, Habib NA. Mucous cystadenoma of the appendix: is it safe to remove it by a laparoscopic approach. *Surg Endosc*. 2003 May;17(5): 833-4. **PubMed** | **Google Scholar**
14. Lau H, Yuen WK, Loong F, Lee F. Laparoscopic resection of an appendiceal mucocele. *Surg Laparosc Endosc Percutan Tech*. 2002 Oct;12(5): 367-70. **PubMed** | **Google Scholar**



Figure 1: sagittal MRI showing hyperintense rounded mass with vegetations



Figure 2: transversal MRI showing hyperintense rounded mass



Figure 3: macroscopic aspect of appendiculus mass



Figure 4: macroscopic aspect showing the size of the mass