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Case Report

Appendix Mucocele Treatment with Partial Resection of the Cecum

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Abstract

The appendix mucocele is described as creating a cystic structure filled with mucus. Mucosal, mucosal hyperplasia, mucinous cystadenoma, mucinous or may occur in cystadenocarcinomas. The appendix mucocele usually asymptomatic, but the most common symptom is pain in the right lower quadrant. Preoperative diagnostic ultrasonography and computed tomography can be performed. Mucocele treatment involves surgery and appendectomy benign with malignant reason why it is recommended adequate by hemicolectomy. Appendectomy can be performed with partial resection of the cecum in some cases. We call treated with partial resection of the cecum, appendix. In this case report, we present a case of mucocele treatment.

Keywords: Appendix, cecum, mucocele

Introduction

Mucocele of the appendix is a cystic dilatation caused by benign or malignant causes of appendix. It is rarely seen and can be detected in 0.6% of the appendectomy specimens (1). It is more common among women than among men (M/F: 1/4) and is usually seen in the 5th decade (2). Mucocele may occur as a result of mucosal hyperplasia, mucinous cystadenoma, or mucinous cystadenocarcinoma (3). Overall, 25% of the cases are asymptomatic and are incidentally diagnosed during surgical or radiological examinations (4, 5). Abdominal pain and right lower quadrant palpable mass are the most common signs and symptoms (6). Mucocele may be ruptured spontaneously or during surgery and leads to gelatinous acid known as pseudomyxoma peritonei. The survival rate of patients with pseudomyxoma peritonei that develops as a result of rupture of the mucocele due to malignant tumors is low (7). Therefore, it is important to diagnose the mucocele during the preoperative period. Preoperative definitive diagnosis is made through radiological evaluations, and ultrasonography (USG) and abdominal tomography (CT) are the most commonly used methods (8). In this study, we aimed to present the case of a 91-year-old patient admitted due to abdominal pain complaints and who was preoperatively diagnosed by USG and CT.

Case Report

A 91--year-old patient was admitted to the emergency service with widespread abdominal pain and loss of appetite complaints that had persisted for 5 days. He did not have complaints of nausea-vomiting, abdominal distension, or inability to defecate. He was diagnosed with left scrotal hernia 5 years ago, and there was no change in the swelling. The patient had no pain in the hernia region. There was no history of additional diseases. Physical examination revealed tenderness and mild defense in the right lower quadrant. Left scrotal hernia was partially reducible. Hemogram and urgent biochemical parameters were normal. No abnormalities were detected in direct radiographs. The results for “cystic lesion in the right lower quadrant in the ultrasound” and “dilated bowel segments” were unknown. Then, the patient was diagnosed with mucocele of the appendix after CT (Figure 1, 2). By means of a median incision made below the umbilicus, the patient underwent laparotomy and a mucocele (8 cm in length and approximately 4 cm in diameter) of the appendix was detected (Figure 3). Because of the dilation up to the appendix stem, appendectomy with partial resection of the cecum was performed (Figure 4). The patient was discharged on the fifth postoperative day without any complication. The patient whose pathology results showed mucinous cystadenoma was followed up. The patient’s consent for scientific purposes was obtained.

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Figure 1. Axial CT image of the mucocele
CT: abdominal tomography

Figure 3. Image from the operation

Figure 2. Sagittal CT image of the mucocele
CT: abdominal tomography

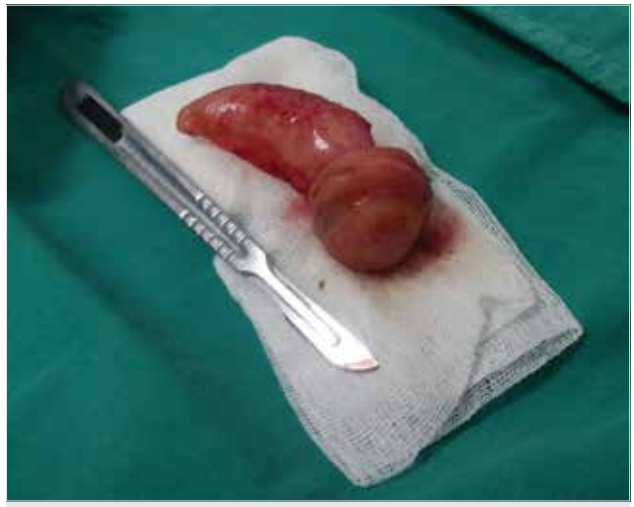

Figure 4. Image of the specimen

Discussion

The mucocele of the appendix is generally described as dilation with mucus appendix and might be caused by mucosal hyperplasia, mucinous cystadenocarcinomas, or mucinous cystadenoma (3). It is macroscopically presented as a sausage-shaped, smooth-edged, mass adjacent to the cecum. Our case also showed similar characteristics. It is more common among women than among men (M/F: 1/4) and is usually seen in the 5th decade (2). However, contrary to the literature, our case was a 91-year-old male patient. Although mucocele of the appendix is usually asymptomatic, symptomatically, it is most frequently observed as pain in the right lower quadrant. Apart from this, signs and symptoms such as palpable abdominal mass, nausea-vomiting, weight loss, and gastrointestinal bleeding can be encountered (9). In our case, there was no evidence of widespread abdominal pain and loss of appetite. The two most important methods of diagnosis are ultrasound and CT. Using USG, mucocele of the appendix is observed as containing mucoid material induced internal echoes and as anechoic-hypoechoic cystic masses. Based on CT findings, the typical symptoms of the mucocele are cystic, well encapsulated, round- or tubular-shaped lesions that are found in the appendix, without any inflammatory reaction, causing extrinsic compression on cecal walls, and with internal septations and sometimes with mural calcification (10). In our case, cystic lesion diagnosis could be made via USG; however, mucocele diagnosis could not be established. Therefore, CT was performed, and a definitive diagnosis was obtained. The mucocele treatment is surgery, and standard treatment methods are appendectomy of benign mucoceles and right hemicolectomy of malignant mucoceles (5). For cases that progress up to the appendix stem, studies have also reported on the use of partial cecum resection (2, 3). Because of the patient's advanced age and benign appearance of the mucocele, we per-

formed appendectomy with partial cecum resection. We ended the operation in this manner because the frozen procedure could not be applied in our hospital. The point to be considered in mucocele surgery is to avoid the perforation of the mucocele. Because if the underlying cause is particularly mucinous cystadenocarcinoma, the 5-year survival rate decreases to 20% because of induced pseudomyxoma peritonei. Pseudomyxoma peritonei is the most feared complication of the mucocele of the appendix. Therefore, despite the concerns related to laparoscopic surgery treatment, recent studies report and recommend that laparoscopic surgery can be performed safely (3).

Conclusion

Mucocele of the appendix, characterized with the appendix filled with mucus and followed by progression into a cystic form, is a rare condition. Preoperative diagnosis is usually made by USG and CT. Treatment is clearly surgical; it is appendectomy for benign etiology and right hemicolectomy for malignant etiology. In some selected cases, for benign dilatations that progress up to the appendix stem, appendectomy with partial resection of the cecum might also be preferred. Although there are still some disagreements regarding laparoscopy and laparotomy preferences, laparoscopy has started to find a place in the treatment. The point to take into consideration in all surgical procedures is avoiding the occurrence of pseudomyxoma peritonei and the perforation of the mucocele.

Informed Consent: Informed consent was obtained from patients.

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