

Laparoscopic appendectomy for mucocele of the appendix

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Abstract

Mucocele of the appendix is an aseptic dilatation secondary to obstruction. The preoperative clinical diagnosis of appendiceal mucoceles can therefore be difficult because of this lack of clinical symptomatology. Surgical excision is the treatment of choice in benign mucocele. We report a case presenting to the surgeons where initial clinical findings and investigations suggested a cyst in the right adnexa. Diagnostic laparoscopy revealed mucocele of the appendix and laparoscopic appendectomy was done.

Key words: Diagnostic laparoscopy, laparoscopic appendectomy, mucocele

INTRODUCTION

Mucocele of the appendix (collection of mucus within the appendiceal lumen) is a rare lesion, found in only 0.2% to 0.3% of 43,000 appendectomies reviewed.^[1] Currently, the assessment of pelvic masses relies heavily on USG as the primary diagnostic tool. This however may not always identify the origin of such a mass. In such cases, clinical findings and other investigative modalities are warranted to aid the diagnostic process. In spite of extensive preoperative investigations, the diagnosis may still remain elusive and may only be made at the time of surgery.^[2] Some regard this lesion as benign, a result of obstruction of the proximal lumen by fibrosis; others believe it to be a neoplasm of the appendix. It is often associated with pseudomyxoma peritonei. The neoplastic variety may be benign or malignant. Surgical resection (appendectomy) is the method of choice in the management of simple mucocele and for cystadenoma with an intact base.^[3] Several studies (mostly case reports) on laparoscopic resection of mucocele have been reported.^[4]

CASE REPORT

A 60-year-old female presented with pain in lower part of abdomen and palpable tender lump in the right ileac fossa. Ultrasound of the abdomen reports a cystic mass of size 12 × 15 cm with thin internal septations in the right adnexa. Her hemogram and biochemistry were within normal levels. We planned for diagnostic laparoscopy and further treatment. The pneumoperitoneum was created with veress needle using carbon dioxide and the pressure was kept at 11 mmHg. The table was kept in the Trendelenburg position with 15° left tilt. A 0° telescope was introduced through the umbilical port for the complete examination of the abdomen. Diagnostic laparoscopy revealed approximately 14 × 15 cm large bluish mucocele of the appendix with omental adhesions. The ovary, fallopian tube, and uterus were all normal looking. Two 5-mm ports were placed in the supra pubic area below the pubic hair line as the working port. The mucocele of the appendix was isolated after separating the mesoappendix from it



Figure 1: Appendicular lump from the distal portion of appendix after removal

with the help of bipolar cautery. Following this, the base of the appendix was ligated at the ileocecal junction and divided. Mucocele of the appendix [Figure 1] was retrieved out in a plastic bag through the umbilical port. Hemostasis was obtained and a suction drain left *in situ* which was removed when non-productive. The umbilical port site wound was closed with 1.0 Vicryl. Cut section showed appendix was filled with mucin-like material [Figure 2]. She was started orally after 4 hours of operation and solid food on the next day. She was called for a revisit after a week for follow up.

DISCUSSION

Mucocele of the appendix is a descriptive term for an appendix distended by mucus, secondary to mucinous cystadenoma (63%), mucosal hyperplasia (25%), mucinous cystadenocarcinoma (11%), and retention cyst.^[5] Clinical presentation may include right lower quadrant pain, change in bowel habits, per rectal bleeding, or a palpable mass.^[6] Approximately 23-50% of patients are asymptomatic, with the lesions being discovered incidentally during surgery, radiological evaluations, or endoscopic procedures.^[6-8] The preoperative clinical diagnosis of appendiceal mucoceles can therefore be difficult because of this lack of clinical symptomatology.

The initial detection of the lesion may be facilitated by radiological, sonographic, or endoscopic means. On barium enema, there is usually non-filling or partial filling of the appendix with contrast. The lesion may be seen as a sharply outlined sub-mucosal or extrinsic mass indenting the cecum and laterally displacing it.^[7] Ultrasound findings can be variable. Purely cystic lesions with anechoic fluid, hypoechoic masses with fine internal echoes as well as complex hyperechoic masses can be seen depending on the contents.^[9] The onion skin sign is considered to be specific for mucocele of the appendix.^[10] CT of the abdomen

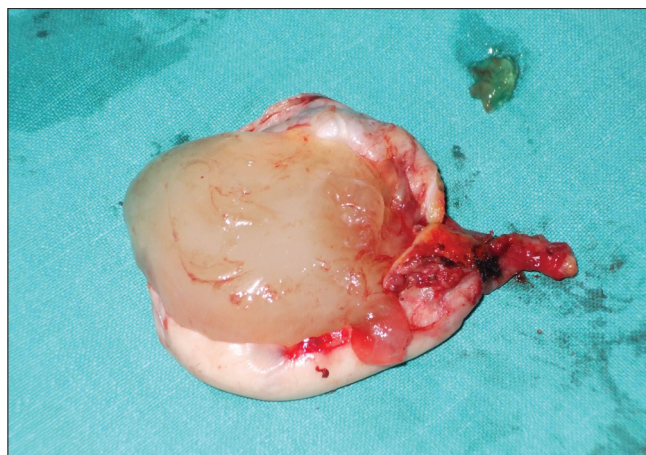


Figure 2: The appendicular lump filled with mucinus material

usually shows a cystic well-encapsulated mass sometimes with mural calcification, in the expected location of the appendix. It may be causing extrinsic pressure on the cecal wall without any surrounding inflammatory reaction.^[11-13] Colonoscopic findings include the “volcano sign,” the appendiceal orifice seen in the center of a firm mound covered by normal mucosa or a yellowish, lipoma-like submucosal mass.^[14]

In our case, USG was unable to provide a preoperative diagnosis. In our case, the decision for excision of the appendiceal mucocele was made as a result of diagnostic laparoscopy and a need to rule out malignancy. Therefore mucocele of the appendix can mimic an adnexal mass and prove to be a diagnostic challenge. In a woman presenting with right iliac fossa mass and with clinical features not indicative of gynecological pathology, an appendiceal origin should be considered in the differential diagnosis.

Surgery is the treatment of choice and should be done early as tumor cannot be ruled out as the causative factor for the mucocele. Pre-operative diagnosis is important to avoid unintended rupture and the development of pseudomyxoma peritonei during surgery. Laparoscopic resection has been used with good results.^[4,15] However, laparoscopic dissection, grasping of the appendix specimen, pneumoperitoneum, or transport of the specimen through the abdominal wall might contribute to peritoneal dissemination of a tumor, if present. These setbacks can be avoided by taking precautions like using bowel holding graspers (non-traumatic) to handle the mucocele and using a non-permeable bag to deliver the specimen out of the port.

CONCLUSION

Mucocele of the appendix can mimic an adnexal mass and

prove to be a diagnostic challenge. Laparoscopic resection of mucocele of the appendix is feasible in spite of the danger of malignancy, provided necessary precautions are taken.

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