

Appendiceal endometriosis: an unusual cause of acute appendicitis

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Appendectomy is the most commonly performed abdominal surgical procedure worldwide [1]. Appendectomy specimens undergoing histopathological examination show various pathologies that cause acute appendicitis. On the other hand, endometriosis is defined as the presence of functioning endometrial tissue outside the uterine cavity. It affects nearly 5–50% of reproductive-age women and may cause abdominal pain and infertility in 50% of these patients [2]. Endometriosis is most commonly seen in gynecologic organs and the pelvic peritoneum. However, endometriosis of the appendix causing acute appendicitis is a very rare condition. In this study we describe such a case.

A 42-year-old female patient was admitted to our hospital with a one-day history of abdominal pain and vomiting. Her medical history was normal. Physical examination revealed right lower quadrant tenderness. In laboratory tests the white blood cell count was 10 200/mm³. On abdominal ultrasound, appendix tissue could not be visualized clearly due to the patient's abdominal fat tissue. To reveal the etiology abdominal computed tomography (CT) was performed. Computed tomography showed a bowel segment 12 mm in diameter at the right lower abdominal quadrant (Figures 1 A, B). A diagnosis of acute appendicitis was made clinically and the patient underwent laparoscopic appendectomy (Figure 2). The histopathological examination showed appendiceal endometriosis 7 days after the operation (Figure 3). The patient's postoperative course was uneventful.

Appendectomy is the most commonly performed abdominal surgery worldwide [1]. The most common symptoms of acute appendicitis are abdominal pain, vomiting and rectal bleeding [3]. Gastrointestinal endometriosis represents nearly 3–37% of all endometriosis cases, but appendiceal endometriosis involves about 3% of gastrointestinal endometriosis and nearly 1% of all endometriosis cases [4]. Obstruction of the appendiceal lumen seems to be the responsible pathology that causes appendiceal infection [4]. The treatment of acute appendicitis is to perform an appendectomy procedure. Some institutions, including ours, send an appendectomy specimen for histopathological examination. The most common results in these examinations include appendiceal inflammation, mucinous neoplasms, adenocarcinomas, tuberculosis, *Enterobius vermicularis*, polyps and diverticulitis [5].

The term endometriosis means the presence of functioning endometrial glands and stroma outside the uterine cavity. External endometriosis is generally found in genital organs and pelvic peritoneum. Endometriosis may also involve the gastrointestinal system, omentum,

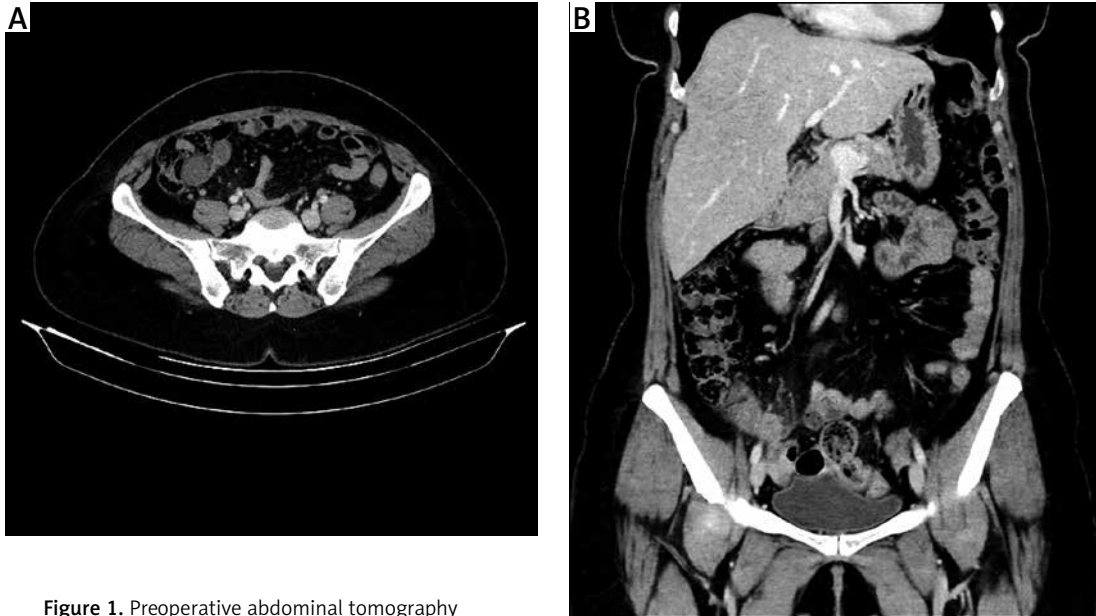


Figure 1. Preoperative abdominal tomography



Figure 2. Appendectomy specimen

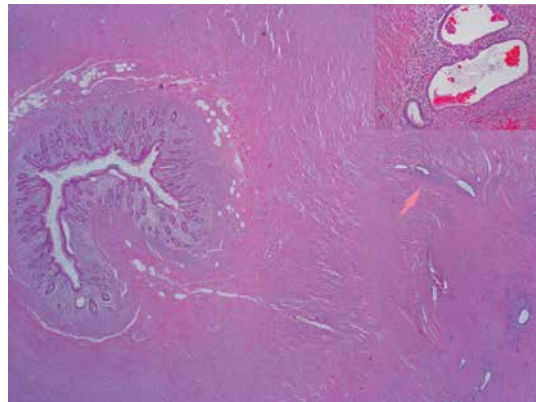


Figure 3. Histopathological examination

surgical scars and mesentery, but it is rarely found in distant organs such as kidneys, lungs, or skin. The most common areas are the ovaries (65%), uterine ligaments (30–60%), cul-de-sac (20–30%), gastrointestinal tract (3–37%), ureters (1–2%), bladder and scar tissue [6]. Similarly to acute appendicitis, the most common symptoms of endometriosis are pelvic pain and vomiting. In our patient the symptoms on admission to hospital were abdominal pain and vomiting.

Appendiceal endometriosis is a very rare pathology and was first described in 1860 by Von Rokitansky [7]. Ultrasonography and computed tomography can be performed to confirm this relationship with appendix and endometriosis tissues, but no gold standard radiological method can be used for this diagnosis [8]. Laboratory parameters such as leukocytes and C-reactive protein can be determined, but like radiological methods there is no gold standard or specific parameter for diagno-

sis. The treatment includes surgery primarily [9]. In our case we performed abdominal ultrasonography and tomography to confirm the diagnosis of acute appendicitis due to the patient's right lower quadrant pain before surgery. After confirming appendiceal inflammation in computed tomography we performed laparoscopic appendectomy. In exploration endometriosis was not suspected on the macroscopic appearance, but the histopathological examination of the appendix specimen confirmed appendiceal endometriosis.

In conclusion, although appendiceal endometriosis is a rare entity, it should be considered in female reproductive patients with right lower quadrant pain and vomiting. Surgery is still the primary treatment method of appendiceal endometriosis.

Conflict of interest

The author declares no conflict of interest.

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