

Stump appendicitis, rare complication after appendectomy: report of a case

Güdük apandisit, apendektomi sonrası ender görülen komplikasyon: Olgu sunumu

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Appendectomy is one of the most common procedures in surgical practice. Stump appendicitis is an acute inflammation of the residual part of the appendix and a rare complication of incomplete appendectomy. It may present clinically as acute abdomen. We report a case of stump appendicitis 12 years after open appendectomy. After the diagnosis of acute appendicitis, the patient was operated and discharged from the hospital four days after operation without any complications. Stump appendicitis is a rare cause of acute abdomen and should be taken into consideration in the differential diagnosis.

Key Words: Acute appendicitis; appendectomy; stump.

Cerrahi pratikte apendektomi ameliyatı en sık yapılan işlemlerden birisidir. Güdük apandisit inkomplet apendektomi sonrası rezidüel olarak kalan apandiksin enflamasyonu sonrası ender görülen komplikasyondur. Klinik olarak akut karın tablosuna yol açmaktadır. Bu yazıda, apendektomi ameliyatından 12 yıl sonra güdük apandisit olan olgu sunuldu. Akut apandisit tanısı konulan olgu ameliyat edildi, ameliyat sonrası dördüncü gün sorunsuz olarak taburcu edildi. Güdük apandisit akut karının nadir görülen bir nedenidir ve ayırıcı tanıda dikkate alınmalıdır.

Anahtar Sözcükler: Akut apandisit; apendektomi; güdük.

Acute abdomen is one of the most common surgical emergencies in the clinical setting, and appendicitis is the most common acute surgical condition of the abdomen. In evaluation of a patient with acute abdomen, the surgeon is confronted with a large differential diagnosis, one of which is acute appendicitis. Appendectomy is the treatment of acute appendicitis, but stump appendicitis may occur as a late complication after the incomplete removal of the organ. This was given low consideration in the differential diagnosis due to the history of previous appendectomy.

Herein, we present a case of stump appendicitis in a patient with a history of previous appendectomy 12 years before.

CASE REPORT

A 32-year-old man was admitted to our surgery department with abdominal pain for 48 hours. Prior to admission, the patient was without complaint. On initial examination, the abdominal pain was severe and localized to the right lower quadrant. No vomiting or nausea was reported, pain was characterized as intermittent, and appetite was normal. There was a surgical scar on the right lower quadrant, with reported history of previous appendectomy. On admission, tenderness, rebound, and involuntary guarding were evident over the right lower quadrant. Heel drop jarring test was positive. The remainder of the abdomen was soft and nontender. There were no palpable masses or organomegaly.

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There was no significant pathology on his rectal examination. His body temperatures were 37.0 °C (axillary) and 37.8 °C (rectal), blood pressure was 130/60 mmHg, and pulse rate was 86 bpm. Laboratory examination revealed a white blood cell count (WBC) of 14,700 cells/mm³ with 87.6% neutrophils, and urinalysis was normal. The remainder of the laboratory values were within normal limits. The plain X-ray studies of the chest and abdomen were normal. Conventional ultrasonography revealed a non-peristaltic intestinal segment, significant for a 6 mm diameter of double wall abnormality in the appendiceal region. The prior medical history was significant for the appendectomy performed 12 years ago and pilonidal sinus operation 3 years prior to presentation. According to these clinical and laboratory signs, the patient was diagnosed as having acute abdomen and was taken to the operation room for exploratory laparotomy. The abdomen was entered using a right lower quadrant incision through the previous appendectomy incision. During operation a 1.5 cm-diameter appendiceal stump was noted in the anatomical region of the appendix. It was significant for purulent and edematous signs (Figs. 1a, b). The appendiceal stump was resected and inverted into the cecal wall with 2-0 silk suture. After irrigation of the abdominal cavity, placement of a rubber drain inside the abdomen was not considered necessary. The post-operative course was uneventful. On post-op day 1, the patient was noted to have good bowel sounds and he was started on a clear liquid diet, which was progressed as tolerated. After an uneventful post-operative period, the patient was discharged on post-op day 4. The histopathologic report of the operative specimen showed marked acute inflammation involving the appendiceal epithelium.

Neutrophils were present in the lumen and in the lamina propria (Fig. 2).

DISCUSSION

Appendicitis is one of the most common conditions treated by the general surgeon. Approximately 7% of the population will have appendicitis in their lifetime.^[1] The first accurate description of the clinical and pathologic features of appendicitis is attributed to Regional Fitz, who was among the pioneers to advocate appendectomy as the appropriate treatment for this entity in 1886.^[2] The more common complications of appendectomy include superficial wound infections, postoperative adhesions and intramural abscesses; stump appendicitis is an exceedingly rare condition. Stump appendicitis was reported for the first time by Baumgartner in 1949.^[3] Since then, some sporadic case reports have appeared in the literature. The increasing prevalence may be due to the rapid development of laparoscopic appendectomy that prompted the recognition of stump appendicitis as an entity.^[4,5] The ages of the patients reported to have stump appendicitis range from 11 to 72 years. The time from appendectomy to the development of stump appendicitis ranges from 2 months to 21 years. The length of the stump ranges from 1.3 cm to 5.1 cm.^[6] Our patient was a 32-year-old otherwise healthy individual with a history of classic, open appendectomy 12 years prior to presentation. As previously noted, our exploratory laparotomy showed a retained appendiceal stump of 1.5 cm.

The incidence of stump appendicitis has been increasing in recent years, mainly due to laparoscopic approaches to appendectomy and length of the retained stump. It has been recommended that

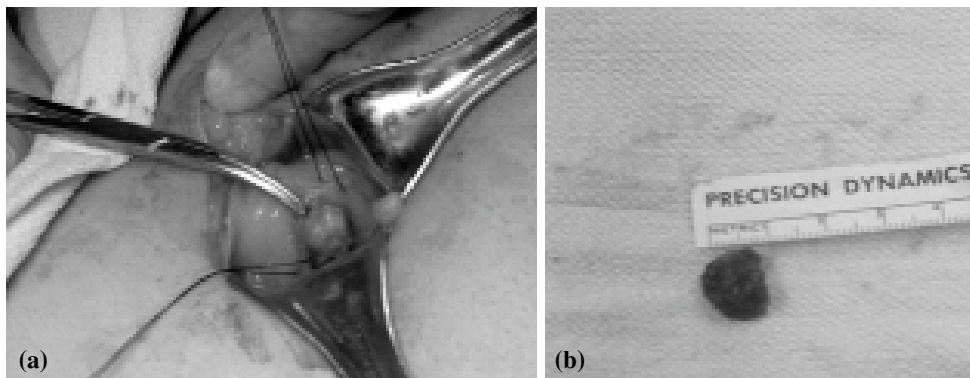


Fig. 1. (a) Intraoperative view of stump appendicitis. (b) Stump after resection.

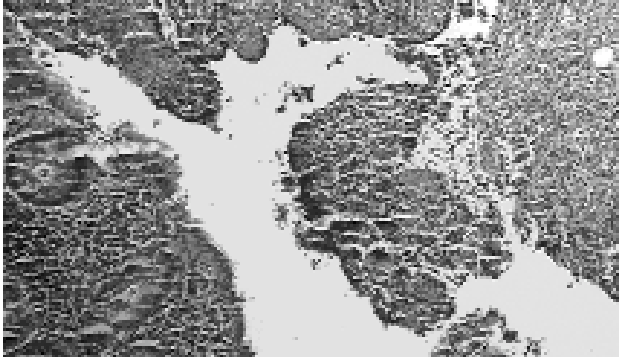


Fig. 2. An acute inflammatory process is present both in the lamina propria and in the lumen of the appendiceal tissue.

the appendix be dissected carefully from the top to the base before resection; a residual long appendiceal stump must be avoided due to the infrequent, but reported, complications after the surgery.^[7,8] As laparoscopic surgery does not have the three-dimensional perspective and tactile feedback, a longer stump is sometimes left behind,^[9] and chronic inflammation of the appendiceal stump is considered to result from the stump that is left longer.^[10] The clinical diagnosis of appendicitis is relatively difficult. The rate of normal appendectomy as quoted in the literature is between 15% and 25%.^[11,12] The clinical diagnosis of acute appendicitis may be obscured by underlying conditions such as mental retardation, pregnancy, immunosuppression and steroid use. Another condition that may delay the diagnosis and surgical therapy is a history of a prior appendectomy.^[13] During the physical examination of a patient with acute abdomen, the presence of appendectomy incision scars must alert the physician for possible stump appendicitis. Accepted treatment for acute appendicitis is appendectomy.^[14] During the appendectomy, the stump must be left shorter than 5 mm. If stump is longer than 5 mm, it may serve as a reservoir for the fecalith and cause complications such as stump appendicitis.^[15]

In conclusion, despite technologic advances, diagnosis of acute appendicitis is only one of numerous conditions that a surgeon must consider when presented with an acute abdomen. Clinical skill and a high level of known common and uncommon diagnoses are required for diagnosis and to treat the patient's condition. A thorough history and physical examination are necessary for accurate diagnosis, and require excellent clinical skill and correlation. Acute appendicitis remains one of

the most difficult diagnoses to make clinically. Much of the difficulty stems from the variability in its timeline and presentation. The classic presentation, including periumbilical pain localized to the right lower quadrant, nausea, vomiting, anorexia, fever and leukocytosis, is generally seen in less than 50% of patients. Stump appendicitis must be considered in the differential diagnosis of acute abdomen despite the patient's open or especially laparoscopic appendectomy history.

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