

# A Rare Cause of Acute Appendicitis after Appendectomy: Tip Appendicitis

## Apendektomiden Sonra Akut Apendisitinin Nadir Bir Nedeni: Uç Apendisit

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Mustafa Kemal University Faculty of Medicine, Department of General Surgery, Hatay, Turkey

### ABSTRACT

Acute appendicitis is a rare complication after appendectomy and usually occurs as a result of leaving a long stump in the initial surgery. However, a residual appendiceal tip with its feeding mesenteric arteries is much rarer and can also lead to acute appendicitis. In this report, we present a patient with acute appendicitis caused by the appendiceal tip remaining after appendectomy.

**Keywords:** Appendectomy, acute appendicitis, tip appendicitis, retrocecal exploration

### ÖZ

Apendektomi sonrası gelişen nadir komplikasyonlardan birisi akut apandisit gelişmesidir. En önemli sebebi apendiks güdüğünün uzun bırakılmasıdır. Ancak apendiks uç kısmının kendisini besleyen mezenterik damarlarla bırakılması çok daha nadir görülen bir durumdur. Bu durumda da akut apandisit gelişebilir. Bu yazıda apendektomili bir hastada apendiks uç kısmının bırakılmasına bađlı olarak gelişen akut apandisit olgusu sunuldu.

**Anahtar Kelimeler:** Apendektomi, akut apandisit, uç apandisit, retroçekal eksplorasyon

### Introduction

Acute appendicitis is one of the most common surgical causes of acute abdomen and the mainstay treatment of acute appendicitis is appendectomy. However, appendectomy has been shown to cause a number of complications including wound site infection, abscess, appendix stump leakage, peritonitis, and ileus. In addition, though rarely, appendectomy may also lead to acute appendicitis due to leaving a long stump behind during the initial surgery, which has been shown to have an incidence of 1/50.000.<sup>1,2</sup>

In this report, we present a patient with acute appendicitis caused by the appendiceal tip left behind after the initial appendectomy.

### Case Report

A 55-year-old male patient presented to our clinic with the complaint of abdominal pain. Patient history revealed that the patient had undergone appendectomy and subsequently undergone open abdominal surgery due to wound site

infection and wound dehiscence at another center one year earlier. The patient stated that the abdominal pain commenced after the abdominal surgery and occurred intermittently but gradually became highly severe before presenting to our clinic. The patient had no remarkable clinical history. Physical examination showed a median incision scar above and below the abdomen and a 10x15 cm fascial defect in the abdominal wall. Moreover, the patient also had rebound tenderness and defense in the right lower quadrant. Laboratory and biochemical parameters were normal except for the leukocyte count, which was 16.000/uL. On ultrasonographic examination, no abnormality was detected except for incisional hernia.

The patient was operated on with the diagnosis of acute abdomen. Surgical exploration showed the residues of the suture material of the stump in the appendectomy site and a normal stump. Moreover, the exploration also showed the tip of the free, inflamed appendix below the ileocecal joint, measuring 1.5 cm in length, with its mesentery ligated with one side of the



Address for Correspondence/Yazışma Adresi: Mustafa Uğur MD,

Mustafa Kemal University Faculty of Medicine, Department of General Surgery, Hatay, Turkey

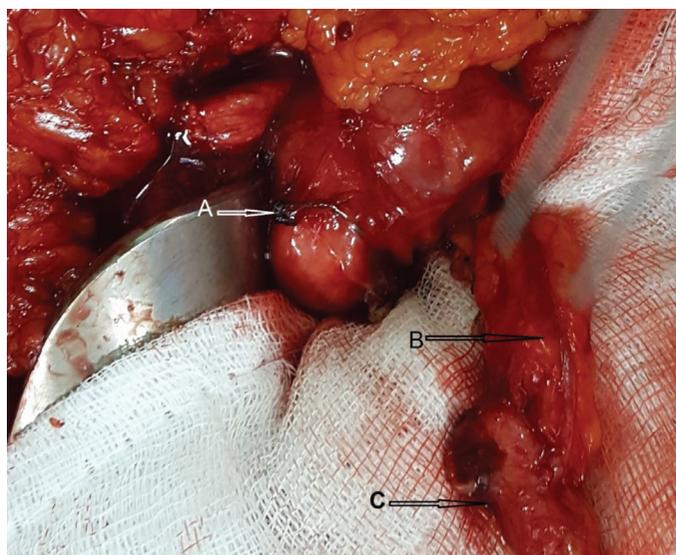
Phone: +90 505 346 32 09 E-mail: drmustafaugur@gmail.com ORCID ID: orcid.org/0000-0002-5922-2367

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appendix (Figure 1). Total appendectomy was performed and the patient was uneventfully discharged at postoperative day 3. pathological examination confirmed the diagnosis of acute appendicitis. Informed consent form was obtained.

## Discussion

Acute appendicitis after appendectomy results from incomplete appendectomy, mainly due to a long stump left behind after the initial surgery. Moreover, acute appendicitis typically occurs in the appendiceal stump and can occur at any age and even long years after the initial appendectomy.<sup>3,4</sup> Literature reviews indicate that there has been a few cases reported with acute appendicitis caused by the appendiceal tip left behind with its mesentery. In that one patient, the appendiceal tip was left behind at the retrocecal joint away from the staple line, probably after the laparoscopic right hemilectomy performed due to a malignant polyp. Moreover, the appendiceal tissue maintained its vitality since its feeding vascular structures were left intact.<sup>5</sup> In our patient, the appendiceal tip was also left behind with its mesenteric arteries, similar to the case presented in the literature. However, the main differences between the two cases were the diagnoses of the patients and the surgical procedures performed in the initial surgeries. In our patient, the appendiceal tip left behind was located in the retrocecal area. The surgical records of the patient regarding the initial appendectomy revealed that the appendix was perforated in the middle portion and the visibility of the appendix was obscured by the adhesions in the right lower quadrant and the accumulation of inflammatory material and debris. Depending on these



**Figure 1.** Intraoperative image showing the appendiceal tip and its feeding vascular structures left behind after appendectomy A) Normal appearance of the stump ligated during the initial surgery, B) Mesenteric arteries feeding the appendiceal tip left behind, C) Appendiceal tip with one side of it ligated with the mesenteric artery

records, we considered that a complete exploration of the retrocecal area was not performed due to the poor visibility of the appendix and since the tip of the appendix was localized in the retrocecal area. In addition, we also considered that the distal tip of the appendix was ligated since it was probably mistaken for the mesentery of the appendix and that the appendiceal tissue maintained its vitality since the mesenteric arteries of the appendix were left intact.

After appendectomy due to acute appendicitis, several cases of tip appendicitis have been reported in the literature. We had similar features in these cases that we have presented in these cases.<sup>6,7</sup>

Stump appendicitis that occurs after the appendectomy performed due to acute appendicitis is a frequent occurrence; however, to our knowledge, acute appendicitis caused by the tip of the appendix has been reported in several cases. In patients undergoing a second surgery due to acute abdomen following initial appendectomy, the retrocecal area should be explored completely, particularly if the stump has a normal appearance.

## Ethics

**Informed consent:** Consent form was filled out by the patient.

**Peer-review:** External and internal peer-reviewed.

## Authorship Contributions

Surgical and Medical Practices: M.U., A.D., E.R.A., Concept: M.U., O.U.Ö., H.Ç., Design: H.Ç., O.U.Ö., A.D., E.R.A., Data Collection or Processing: O.U.Ö., H.Ç., Analysis or Interpretation: M.U., A.D., O.U.Ö., Literature Search: H.Ç., E.R.A., H.Ç., Writing: M.U., O.U.Ö.

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