

# A Rare Cause Of Acute Abdomen: Stump Appendicitis

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## Abstract

We report a stump appendicitis case of a 18-years-old man two months after laparoscopic appendectomy diagnosed by CT scan and successfully treated by laparoscopically. Although the signs and symptoms do not differ from acute appendicitis, the diagnosis is often not considered because of the past surgical history. This clinical condition should be considered in differential diagnosis of acute abdominal pain and surgery should not be delayed.

## ABBREVIATIONS

Ultrasonography:US  
computed tomography:CT

## INTRODUCTION

Stump appendicitis is a rare and serious clinical entity (1). It is an acute inflammation of residual part of appendix remaining after an appendectomy has been performed. The incidence of this condition may be increasing, possibly because of widespread use of laparoscopic appendectomy (2). It has been associated with the length of the stump and the utilization of laparoscopic surgery. Although the signs and symptoms do not differ from acute appendicitis, the diagnosis is often not considered because of the past surgical history (3). Ultrasonography (US) and computed tomography (CT) are helpful in detecting pericecal changes (4). We report a case with stump appendicitis who performed laparoscopic re-resection 2 months after first laparoscopic appendectomy.

## CASE REPORT

A 18 year old male was admitted with diffuse abdominal pain, nausea, vomiting lasting 18 hours. There was no medical history except a laparoscopic appendectomy 6 months ago in our hospital. On physical examination he had temperature 39 °C (axillary), blood pressure 110/70 mmHg, pulse rate 100/min. His abdomen was tender and there was diffuse rebound and defense. On laboratory tests there was 20.600/mm<sup>3</sup> white blood cell count. In evaluation of records relating to the first operation, pathologic examination had confirmed removal of suppurative appendicitis. The specimen had measured 8x1

Abdominal US examination performed 3-5 MHz convex transducer. There was 2,5 cm in thickness free fluid between intestinal loops and thickened intestinal loops about 2 cm in length at right lower quadrant (Figure 1). Abdominal CT examination after oral and intravenous contrast media administration indicated a tubular mass about 1,5 cm in length and inflammatory changes of surrounding fat (Figure 2).

**Figure 1**

Figure 1: Thickened intestinal ans about 2 cm in length at right lower quadrant in ultrasonographic examination.



### Figure 2

Figure 2: A tubular mass about 1,5 cm in length and inflammatory changes of surrounding fat in computed tomography.



The patients underwent laparoscopic exploration. Purulent material between intestinal ans at right lower quadrant and inflamed appendiceal stump 3 cm in size were noted. Appendiceal stump was resected by using endo GIA 45 mm (Tyco Healthcare, USSC, Norwalk, Connecticut, USA) and peritoneal cavity irrigated. Pathologic examination confirmed acute suppurative appendicitis involving a 3 cm appendix stump. The patient was discharged postoperative 4th day. He is in good general health after 9 months.

### DISCUSSION

Stump appendicitis was first described by Baumgartner in 1949. Since then sporadic cases have reported in the literature. It may subacute or acute in nature<sup>(5)</sup>. Patients who had undergone appendectomy operation are not considered to have a disease based on appendiceal stump. Delayed operation causes peritonitis and increases morbidity and mortality<sup>(1)</sup>. The interval of onset ranges from few months to 20 years<sup>(2,4)</sup>. Stump appendicitis may occur either open or laparoscopic appendectomy<sup>(1,3)</sup>. A stump longer than 5 mm may cause such complications and also serves as a reservoir for fecalith that may result with a stump perforation<sup>(1)</sup>. In literature causes of stump appendicitis are insufficient inversion of stump, remnant of excessive length and insufficient laparoscopic appendectomy<sup>(1,3)</sup>. In our case there was history of laparoscopic appendectomy 6 months ago and appendiceal remnant length was 3 cm in size.

The imaging findings are nonspecific. US and CT useful for detecting peritoneal fluid and pericecal abscess. CT is more helpful to show peripheral fat inflammation<sup>(4)</sup>. We also

detected a tubular mass representing thickened stump on US and CT.

There is no consensus regarding treatment of the stump appendicitis. In 1934 Mayo reported simple ligation of the stump but several studies demonstrated the complication such as intussusception, intramural abscesses and post operative adhesions. Inversion of the stump theoretically decreases contamination of the peritoneal cavity by the infected stump, decreases the formation of adhesions and minimizes bleeding from the stump. Despite these arguments there are no data to support either simple ligation or inversion<sup>(3)</sup>. Options for treatment stump appendicitis have ranged from laparoscopic appendectomy to more aggressive operation such as ileocolic resection with ostomy. Our case successfully treated with laparoscopic stump appendectomy. In literature, laparoscopic surgical treatment for stump appendicitis has rarely been reported<sup>(6,7)</sup>. Probably, these cases are under-reported.

In conclusion, the presence of appendectomy history does not exclude the possibility of appendicitis. Stump appendicitis should be taken into consideration in the differential diagnosis of right lower quadrant abdominal pain. CT scan and diagnostic laparoscopy are excellent diagnostic modalities. Completion of laparoscopic stump appendectomy can be done in patient who diagnosed early.

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