

An Early Presentation of Stump Appendicitis Following Laparoscopic Appendectomy: A Rare Diegesis

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ABSTRACT

Laparoscopic appendectomy is now the standard surgery of choice for acute and recurrent appendicitis. Development of stump appendicitis after 3 days of laparoscopic appendectomy is a very rare incidence.

Presenting a case report of a 19-year-old male who underwent laparoscopic appendectomy for acute appendicitis, and on postoperative day 4, developed sudden onset of high-grade fever, pain over the right iliac fossa, vomiting, localized features of peritonitis, and raised total leukocyte count (TLC). On contrast-enhanced computed tomography (CECT), abdomen and pelvis revealed stump appendicitis with minimal pelvic collection. The patient underwent exploratory laparotomy, and a stump of size 1.5 cm was found with features of inflammation and surrounding minimal adhesion. A stump appendectomy was done.

Stump appendicitis presentation immediately after appendectomy is very uncommon. Though the incidence of stump appendicitis is rare but should be kept as a differential diagnosis in a previously operated appendectomy patient. Awareness of such cases initiates early diagnosis and advocates proper intervention at the right time to prevent unnecessary morbidity and mortality.

Keywords: Appendectomy, Appendicitis, Case report, Laparoscopic, Stump appendicitis.

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INTRODUCTION

Acute appendicitis is one of the common surgical emergencies encountered, incidence being the highest in the 2nd and 3rd decade of life.¹ Laparoscopic appendectomy is the standard treatment of choice now. Stump appendicitis is an uncommon complication post appendectomy, usually present late and thought to be due to interval-repeated inflammation of the incompletely excised stump of the appendix (<0.5-cm stump length).^{2,3} Only very few cases are being reported in the literature.⁴

We report a case of early presentation of stump appendicitis, diagnosed in the postoperative period, which is very unusual.

CASE DESCRIPTION

A 19-year-old male presented to the Emergency Department with pain in the right iliac fossa and fever since 2 days. Fever subsided after taking antipyretics. On examination, the patient was febrile, tachycardic, BP – 118/82 mm Hg, the abdomen was soft, tenderness in the right iliac fossa (RIF) was present, and rebound tenderness was also present. Total leukocyte count was $13.2 \times 10^3/\mu\text{L}$. Alvarado score was 6. On ultrasonography (USG), abdomen and pelvis revealed a blind-ended tubular structure with 7 mm diameter, and probe tenderness was there. Compiling clinical, radiological, and biochemical reports, acute appendicitis was diagnosed. The patient underwent laparoscopic appendectomy for the same.

Postoperative days 1, 2, and 3 were uneventful.

On postoperative day 4, the patient developed pain in the lower abdomen followed by high-grade fever (102.3°F), and multiple bouts of vomiting, despite of being on antibiotics and paracetamol infusion. On postoperative day 5, he had four episodes of watery diarrhea. Physical examination of the abdomen showed

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tenderness in the lower abdomen with rebound tenderness in the RIF and localized guarding. Total leukocyte count was $18.6 \times 10^3/\mu\text{L}$. Contrast-enhanced computed tomography revealed inflamed appendicular stump of caliber 6 mm noted in RIF suggestive of acute appendicular stumpitis with pelvic collection (Fig. 1). The patient did not improve with expectant management.

On postoperative day 7, he was planned for exploration with lower midline incision. Intraoperatively, the stump of the appendix was found, of length 1.5 cm, which was inflamed with pelvic collection of pus (Fig. 2). After thorough toileting with warm saline, stump appendectomy was done (Fig. 3), and the abdomen was closed by putting an ADK drain. Postoperatively fever subsided, TLC was in the declining trend. The drain was removed after 48 hours. The postoperative period was uneventful. Histopathology showed a remnant appendix with neutrophilic transmural infiltration. On follow-up, the patient has no complaints till now.

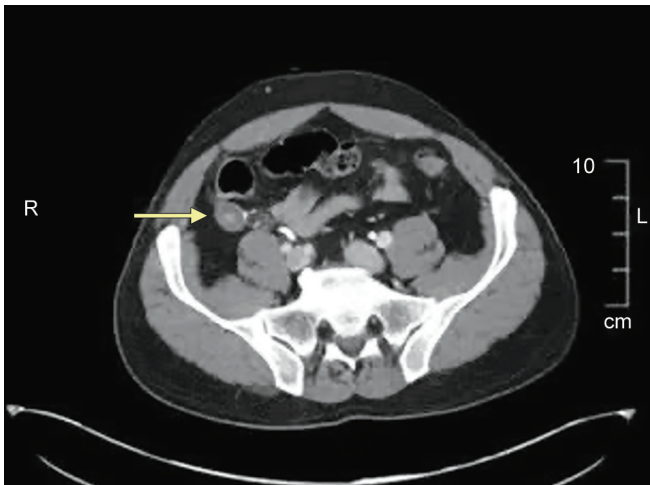


Fig. 1: CECT showing the stump of the appendix

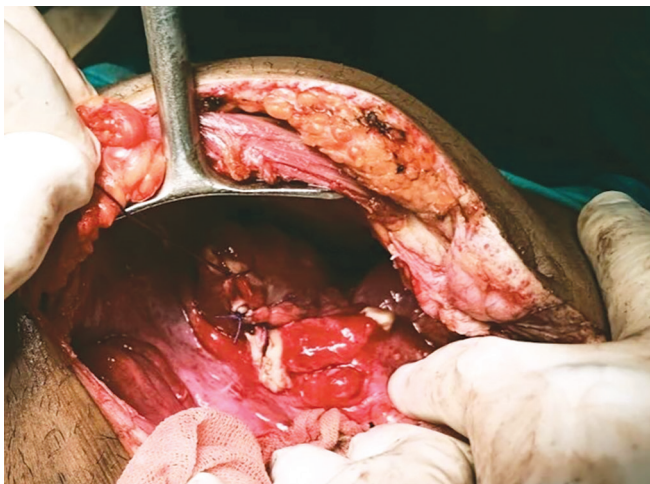


Fig. 2: Appendicular stump with the surrounding slough

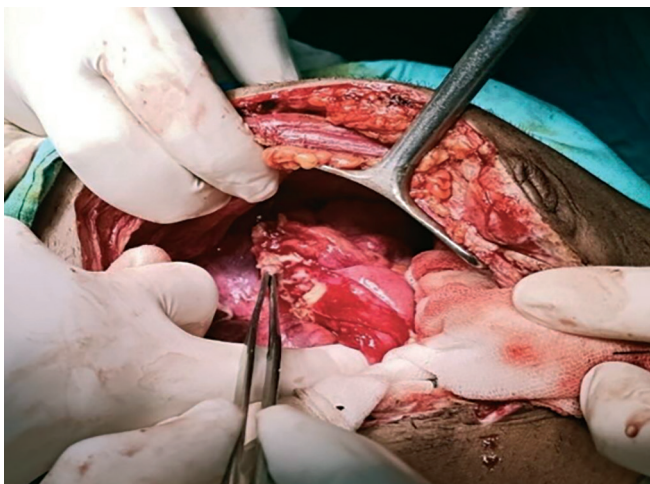


Fig. 3: Post stump appendectomy

DISCUSSION

The stump appendicitis is reported as early as 2 months and as late as 50 years from the day of appendectomy.⁵ The cause of

stumpitis is the re-inflammation of the residual appendix in the initial procedure. It has been found following open appendectomy with ligation of stump, inversion of stump,² and laparoscopic appendectomy.⁵ The prevalence is more with laparoscopic procedure⁶ due to small field of vision, absence of tactile, and three-dimensional perception.

The other factors for stump appendicitis include inflammation causing inadequate exposure of base, a subserosal or retrocecal appendix, lighting the appendix without stump invagination, long stump left in the fear of injuring the cecum, and local ulceration by fecolith.⁴ To minimize diagnostic dilemma, USG and CECT are the investigations of choice for diagnosing preoperatively. A CT also excludes other etiologies.⁷ To avoid stump appendicitis, it is better to prevent. "Appendicular critical view", i.e., appendix at 10 o'clock, taenia coil/libera at 3 o'clock, and terminal ileum at 6 o'clock position is to be used. Identification of the merging point of three taeniae is paramount in identification and ligation of the base of the appendix. The remnant stump should not be >5 mm, as longer than this size is associated with stump appendicitis as per the literature.³

It can be treated by open or laparoscopic intervention.⁴ In our case, as there was pelvic collection, a lower midline exploration was done with removal of the residual stump.

CONCLUSION

In patients with prior appendectomy, mild index of suspicion is required to rule out stump appendicitis that will prevent late diagnosis and its aftermath. It can present at any point of time post appendectomy.

Depending upon presentation, clinical and radiological evaluation, the patient may undergo conventional or laparoscopic stump appendectomy.

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