

Stump Appendicitis Status Post Laparoscopic Appendectomy

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ABSTRACT

Introduction: Appendectomy is one of the most commonly performed surgical procedures in the world. Over time, complications associated with appendectomy have declined. Stump appendicitis is one of the rare delayed complications of appendectomy. It involves infection of the residual appendix tissue that can occur after a patient has undergone appendectomy in which the stump was left behind. Patients present with abdominal pain associated with nausea and vomiting. Computed tomography scanning of the abdomen is diagnostic.

Case Description: We report the case of a 21-year-old man with stump appendicitis status post laparoscopic appendectomy at another hospital, which was successfully treated with laparoscopic completion appendectomy.

Key Words: Stump appendicitis, Laparoscopic appendectomy, Residual appendix, Abdominal pain, Completion appendectomy.

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INTRODUCTION

Acute appendicitis is one of the most common surgical emergencies in the world, and stump appendicitis is one of the rare complications. Physicians should be aware of this complication; prompt diagnosis with successful management is essential to prevent further complications.

CASE PRESENTATION

A 21-year-old man with no significant medical history presented with a 1-day history of acute-onset right lower

quadrant abdominal pain. He had undergone uncomplicated laparoscopic appendectomy at another hospital 6.5 months before this presentation. Workup was significant for elevated white blood cell count of 14,200 cells/mm³ (reference normal³), other laboratory test results were unremarkable. A computed tomography (CT) scan of the patient's abdomen showed a large fluid-filled appendix that measured 11 mm in diameter with periappendiceal fat stranding suggestive of acute appendicitis (**Figure 1**). He was admitted for intravenous antibiotics and pain control. However, on day 2 of admission, the patient had worsening of abdominal pain and a spike in temperature of 101.5°F, and he was hypotensive with blood pressure of

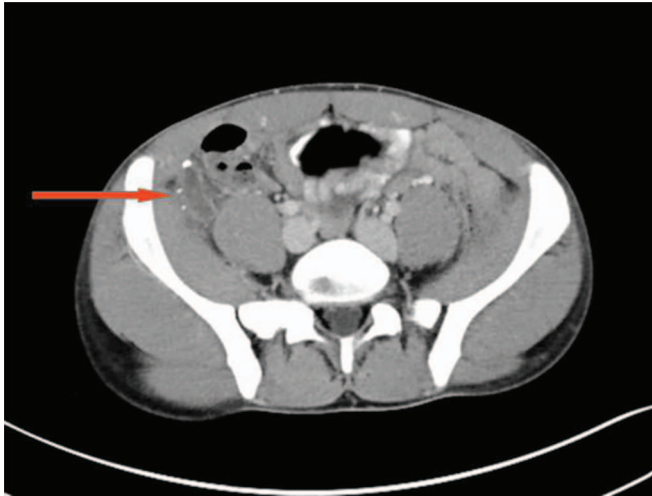


Figure 1. CT scan of the abdomen (axial): recurrent stump appendicitis, fluid-filled appendix with inflammation (red arrow).

90/70 mm Hg. After resuscitation, the patient was taken to the operating room for laparoscopic appendectomy of the stump. The pathologic examination revealed acute stump appendicitis. The appendix stump measured 3 cm in length (**Figure 2**). His postoperative course was uneventful with postoperative pain, and he was discharged home on postoperative day 4. He was doing well at 1-week follow-up in the clinic.

DISCUSSION

Acute appendicitis is mostly a clinical diagnosis. Stump appendicitis following laparoscopic appendectomy is



Figure 2. Gross image: inflamed appendix, prior staple lines seen from initial appendectomy (white arrows).

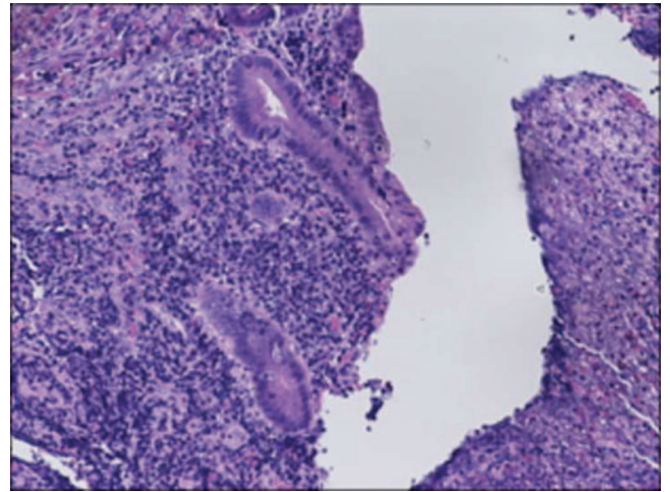


Figure 3. Histology: ulcerated intestinal/appendiceal mucosa (hematoxylin and eosin stain, magnification 40X).

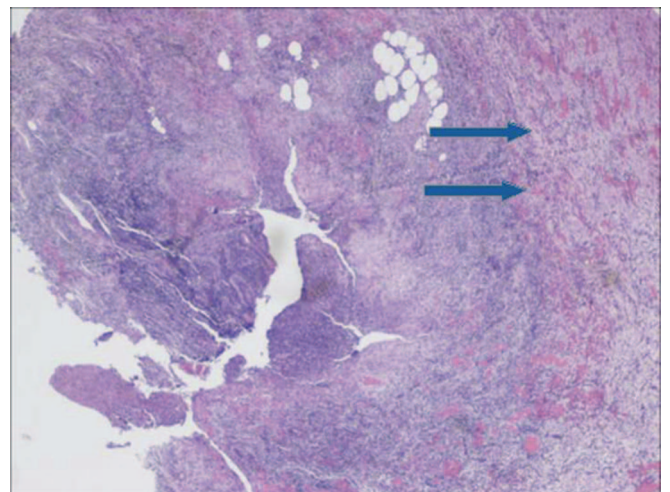


Figure 4. Histology: neutrophilic infiltration of the muscularis propria, periappendiceal soft tissue, and congested blood vessels (blue arrows) (hematoxylin and eosin stain, magnification 20X).

one of the rarest complications and less commonly reported disease. In review of the operative report from the first operation, our patient had undergone uncomplicated laparoscopic appendectomy with operative findings of distended appendix with inflammation and adhesions to the lateral peritoneal wall. Stump appendicitis is inflammation of the residual appendix that was left behind. Stump appendicitis can occur with both open or laparoscopic appendectomies, and presentation is similar to that of acute appendicitis. Symptoms of recurrent stump appendicitis are abdominal pain that starts in the periumbilical area and radiates to the right

lower quadrant with fever, nausea, and vomiting.¹ When a patient with a history of an appendectomy presents with right lower quadrant pain, it becomes a surgeon's dilemma.² Initial assessment includes postoperative complications from prior appendectomy, including an abscess collection or recurrent appendicitis.³ Both CT scan of the abdomen and ultrasound can be used to diagnose recurrent stump appendicitis, but a CT scan is the gold standard.⁴ A stump greater than 3 mm after the primary appendectomy can be the cause of stump appendicitis.²

Early diagnosis and acute management of the stump appendicitis with completion of appendectomy laparoscopically can lead to favorable outcomes. On histopathologic examination, there are many inflammatory cells with neutrophils of the residual appendix (**Figure 3** and **Figure 4**).

CONCLUSION

Stump appendicitis is an insidious diagnosis after an appendectomy. Making a diagnosis early with a CT scan

with completion appendectomy can decrease the risk of perforation and sepsis. Patients will have favorable outcomes with no postoperative complications if diagnosed clinically and diagnostically with imaging.

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