

Stump Appendicitis after Previous Appendicectomy: A Case Report

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ABSTRACT

Acute appendicitis remains one of the most common causes of attendance to the Emergency Department that culminates in urgent surgery. Stump appendicitis is a rare but important delayed complication of appendectomy, characterised by inflammation of residual appendiceal tissue. Even more unusual is its presentation as a cutaneous swelling, which can lead to diagnostic delays. The present case report describes a 26-year-old male patient who presented with swelling at the previously operated site three months after an open appendectomy. Computed Tomography (CT) imaging showed an air pocket in the subcutaneous plane with an adherent stump of the appendix to the parietal peritoneum, and operative findings confirm the presence of a remnant appendix adherent to the parietal peritoneum with an overlying cutaneous sinus tract. The patient was re-explored with a diagnostic laparoscopy, wherein the remnant appendix was identified and excised completely. The postoperative period was uneventful, and the patient made a complete recovery. The current case highlights the importance of maintaining a high-index of suspicion in patients with post-appendectomy right lower quadrant symptoms. Awareness of this condition among clinicians and careful radiological evaluation are essential for timely diagnosis. Early recognition and prompt surgical management are crucial to prevent serious complications and ensure favourable patient outcomes.

Keywords: Acute abdomen, Adherent stump, Diagnostic laparoscopy, Recurrent appendicitis, Right iliac fossa pain

CASE REPORT

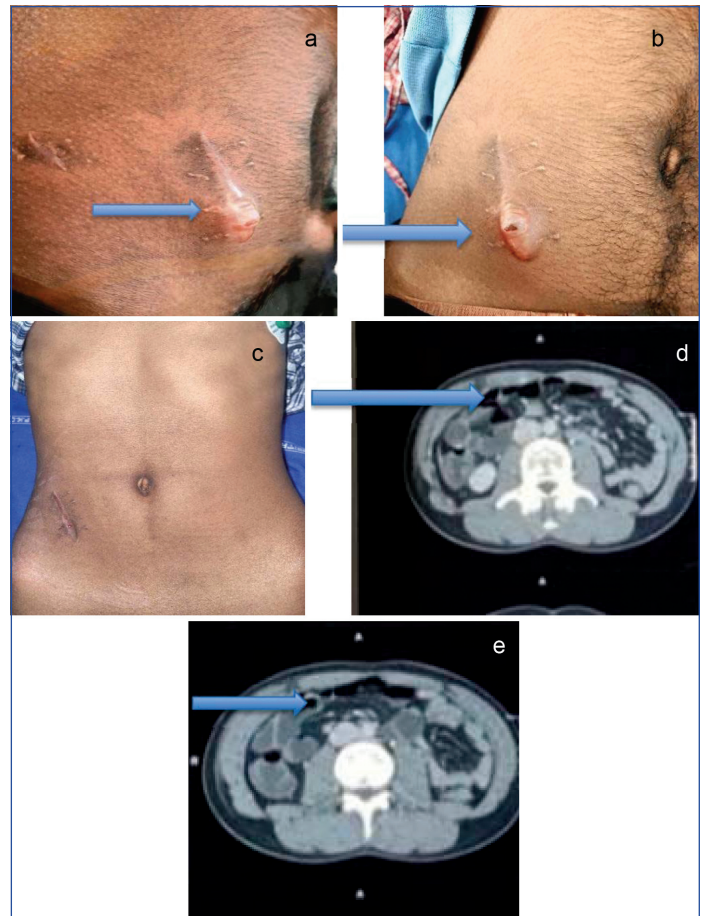
A 26-year-old male presented to the Surgical Outpatient Clinic with a one-week history of a fluctuant, non tender swelling at the previously operated site of open appendectomy. He described occasional pain around the area but no fever, vomiting, anorexia, or weight loss. The patient underwent an open appendectomy three months ago for acute appendicitis, with an uneventful postoperative course and complete recovery until one week back when he observed the spontaneous appearance of the swelling at the lower border of the McBurney's incision. No pathology report was available from the previous surgery.

Physical examination revealed a 2 cm swelling [Table/Fig-1a,b] in the right iliac fossa at the lower margin of the previous incision scar. The swelling was fluctuant, non tender, and not reducible with an absent cough impulse. There was a spontaneous rupture of the swelling during the course of investigations, forming a sinus opening [Table/Fig-1c]. Abdominal examination revealed no palpable mass or extension of the sinus tract in deeper planes.

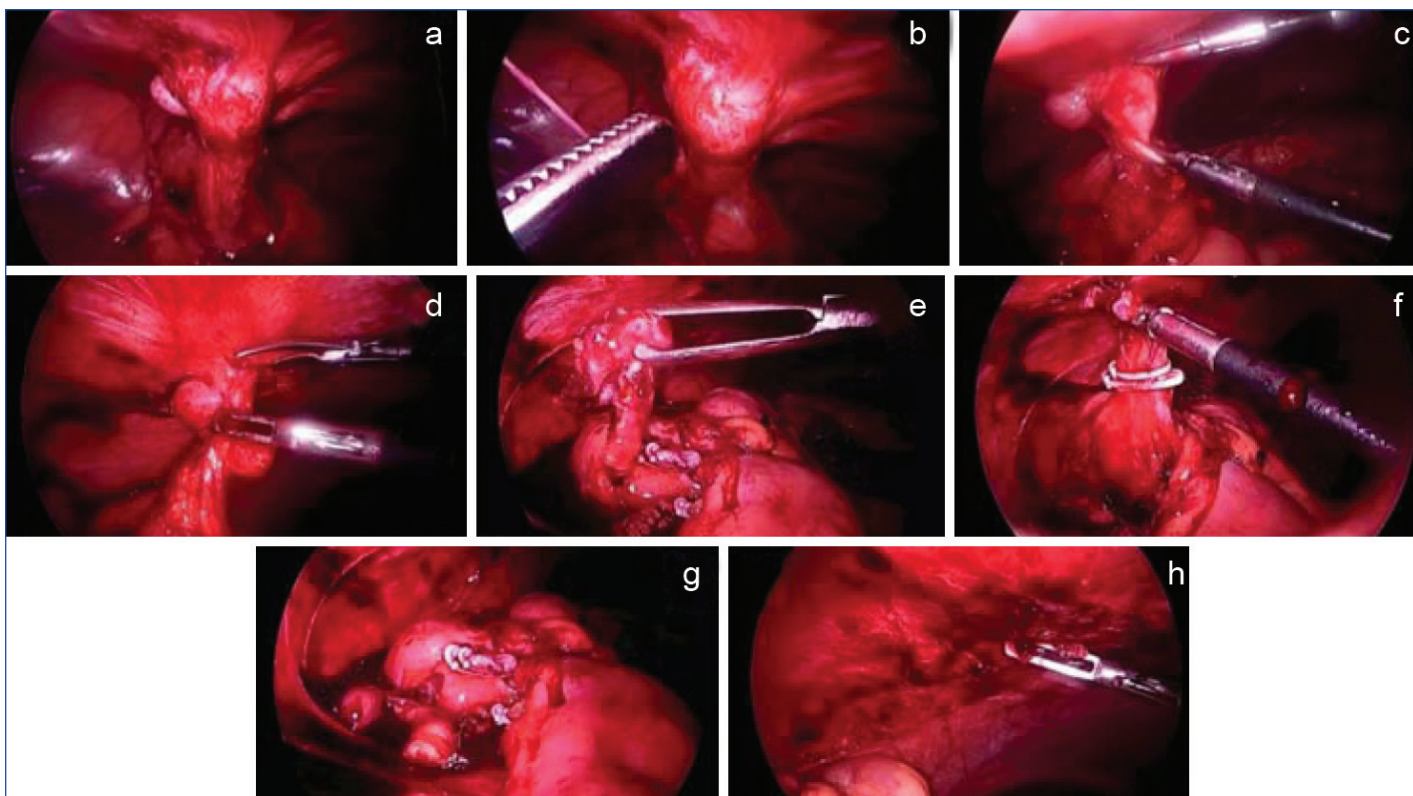
All biochemical laboratory investigations {Complete blood count, Renal profile, Viral markers like Human Immunodeficiency Virus (HIV) & Hepatitis B Surface Antigen (HBsAg), Random Blood Sugar (RBS)} were within acceptable normal ranges. A Contrast-Enhanced Computed Tomography (CECT) scan of the abdomen and pelvis was performed, which demonstrated a thick-walled and inflamed residual appendiceal stump of about 2.5 cm in length, along with a low-density tract and a cutaneous collection of approximately 3 mL in volume [Table/Fig-1d,e].

A provisional diagnosis of stump appendicitis with a suspicious sinus/fistula was identified. The patient underwent diagnostic laparoscopy followed by stump appendectomy and excision of the sinus tract and primary closure. Intraoperatively, the sinus tract was traced to an inflamed stump remnant adherent to the parietal peritoneum. The stump was dissected and excised at its junction with the caecum, ensuring complete en bloc excision of the tract [Table/Fig-2a-h]. An intraperitoneal non suction drain was placed, and the wound was closed primarily in multiple layers. The postoperative period was uneventful. The drain was removed on postoperative day one, and the patient was discharged on day

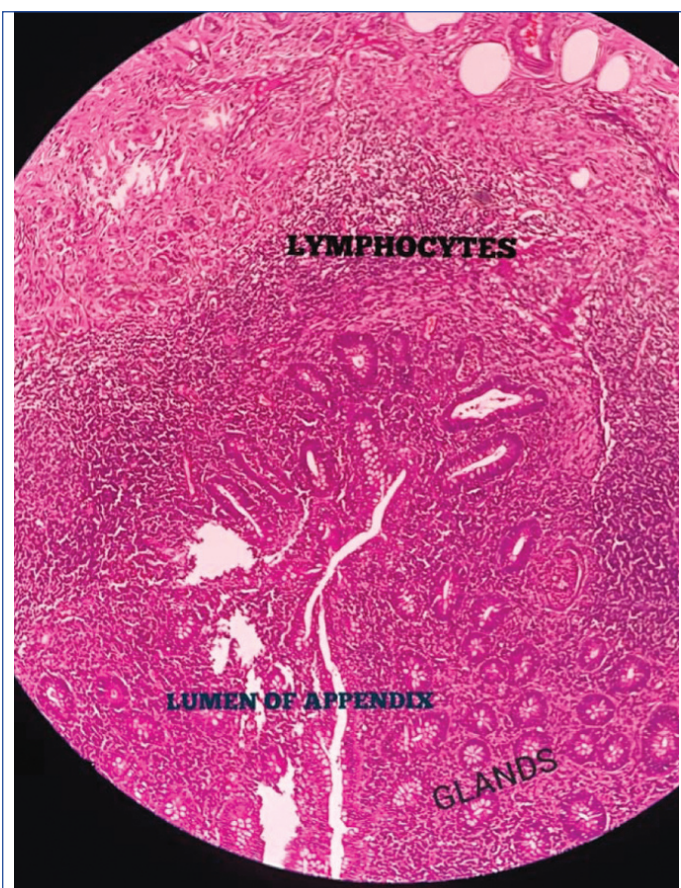
three. Histopathological examination {Haematoxylin and Eosin (H&E)} of the specimen revealed features of chronic appendicitis [Table/Fig-3]. At the two-month follow-up, the wound had healed completely, with no recurrence of symptoms or discharge.



[Table/Fig-1]: a,b) Patient with swelling marked by blue arrow over previously operated appendectomy incision; c) followed by sinus formation after rupture; d,e) Air pocket in the subcutaneous plane with adherent stump of the appendix to the parietal peritoneum.



[Table/Fig-2]: Sequential steps: (a,b): Identification of the appendicular stump adhered to the parietal wall; (c,d): Release of the stump with blunt and sharp dissection; (e-g): Extraction of specimen, followed by securing the base of the appendix with haemlock; (h): Final image showing clearance from the parietal wall.



[Table/Fig-3]: Histopathological section of the remnant appendix with features of chronic appendicitis (H&E 10x).

DISCUSSION

Stump appendicitis may lead to the same complications of acute appendicitis including perforation, peritonitis, and septic shock, with significant risks of poor outcomes if the diagnosis is overlooked or delayed [1]. The lifelong probability of developing acute appendicitis is estimated at 7%, but the probability of developing stump appendicitis is much lower (1/50,000) [2].

The case series by Soh CL et al., demonstrates the importance of recognition of stump appendicitis as a differential for patients presenting with abdominal pain and previous appendicectomy. Active exclusion of this differential diagnosis in a patient with a previous appendicectomy who presents with right iliac fossa pain is vital. Early identification and treatment can prevent morbidity in the patient population [3].

Given the diagnostic uncertainty and elevated inflammatory markers, a CT scan is recommended for confirmation; other imaging techniques, such as abdominal ultrasound or Magnetic Resonance Imaging (MRI), can also be used. CECT scans are effective in detecting an inflamed appendiceal stump, but the findings can resemble those seen in acute appendicitis, including caecal wall thickening, fat stranding, or localised fluid collection [4]. This similarity may contribute to a delayed diagnosis and subsequent complications.

Kumar A et al., have discussed a case of stump appendicitis presenting two years after appendicectomy wherein a CT scan demonstrated the presence of a purulent collection in the right iliac fossa, which on diagnostic laparoscopy revealed a perforated stump appendicitis [5].

According to a literature analysis, between January 2008 and December 2017, six patients were diagnosed with stump appendicitis with or without perforation. Five patients were male. Three patients underwent laparoscopic appendectomy, and the others underwent laparoscopic ileocecectomy. There were no cases of open conversion [6].

According to Paudyal N et al., conservative therapy with intravenous (i.v.) antibiotics has demonstrated clinical efficacy in individuals for whom operational management may not be the best course of action [7]. Fecalitis and stump appendicitis are risk factors for any remaining appendix tissue longer than 5 mm [8].

Ochoa LF et al., have described various measures during initial appendectomy to avoid stump appendicitis. These include stump length of less than 5 mm, securing the base of the appendix, inspecting for anatomical variations, ensuring proper haemostasis, and avoiding residual tissue [9]. There is no definitive surgical

protocol for suspected stump appendicitis; however, laparoscopy is favoured over open surgery as it provides superior visualisation and helps in establishing an accurate differential diagnosis [10].

CONCLUSION(S)

Awareness of stump appendicitis is critical to avoid diagnostic delay and associated morbidity. A history of appendectomy should not exclude appendicitis from the differential diagnosis in patients presenting with an acute abdomen. Prompt imaging and surgical intervention lead to favourable outcomes.

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AUTHOR DECLARATION:

- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

PLAGIARISM CHECKING METHODS: [Jain H et al.]

- Plagiarism X-checker: Dec 27, 2025
- Manual Googling: Apr 02, 2026
- iThenticate Software: Apr 04, 2026 (20%)

ETYMOLOGY: Author Origin

EMENDATIONS: 7

Date of Submission: **Dec 25, 2025**

Date of Peer Review: **Feb 10, 2026**

Date of Acceptance: **Apr 06, 2026**

Date of Publishing: **Aug 01, 2026**