


CASE REPORT

Stump appendicitis, a rare but serious complication of appendectomy: A case report

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Abstract

Stump appendicitis is a rare delayed post-appendectomy complication. This diagnosis must be considered in case of right iliac fossa pain in a patient with a history of appendectomy

KEYWORDS

appendicitis, recurrent appendicitis, stump appendicitis

1 | INTRODUCTION

Stump appendicitis is a rare complication whose incidence is increasing since the advent of laparoscopy. As symptoms are non-specific and in front of a history of appendectomy, it is often confused with other conditions making its diagnosis and management delayed. Surgical resection is the appropriate treatment in reported cases. Appendectomy is one of the most common emergency surgical operations (1% of all surgical procedures).¹ Stump appendicitis is a rare complication of appendectomy. Its frequency is 1/50,000 on one of the most common surgical procedures. The main difficulty is to know this complication. Its incidence is clearly increasing. Considering the history of appendectomy, the diagnosis and the management of stump appendicitis are delayed.

We present a case of a patient with history of appendectomy coming to the emergency department with acute abdominal pain and signs of intestinal obstruction. Stump appendicitis was suspected on CT scan and diagnosed on laparoscopy.

2 | CASE PRESENTATION

A 30-year-old woman with history of appendectomy 10 months ago presented to the emergency department suffering from fever, abdominal pain, and vomiting for 2 days.

Abdominal examination showed tenderness in right iliac fossa during abdominal palpation in the proximity of a well-healed McBurney's incision scar. Abdominal distension and meteorism were diffuse.

Laboratory tests showed white blood cells at 14,500/mmc with slight neutrophilia at 10,450/mmc and C-reactive protein at 102 mg/dl.

Abdominal computed tomography (CT) scan showed distension of the small intestine, infiltration of the periapendicular region (red arrow), and the presence of a blind-ending image mimicking acute appendicitis (Figure 1).

A laparoscopic exploration was performed; it showed a 2-cm appendicular stump with a gangrenous tip and a flange enveloping the terminal ileum with distension of

the small bowel (Figure 2). A complementary appendectomy with section of the flange was performed. The postoperative recovery was uneventful, and the patient was discharged on postoperative day 2.

Pathological analysis of the specimen confirmed that it was a vestigial appendix, with a length of 2.3 cm and a width of 1.0 cm, with active inflammation.

The patient did not present any recurrence of pain at 12 months of follow-up.

3 | DISCUSSION

Laparoscopy has offered a new therapeutic approach to the management of appendicitis. Although the diagnosis of appendicitis is easy in a patient with no previous surgery, it remains unknown to practitioners in the case of a recurrence.

Stump appendicitis is one of the rare complications of appendectomy. The first case was described by Rose in 1945 in two patients. The incidence of stump appendicitis is variable according to series, it is about 1 to 5 in 50,000 cases but the real incidence is higher due to underestimating of this entity. A modern review found 160 cases reported in surgical literature.²

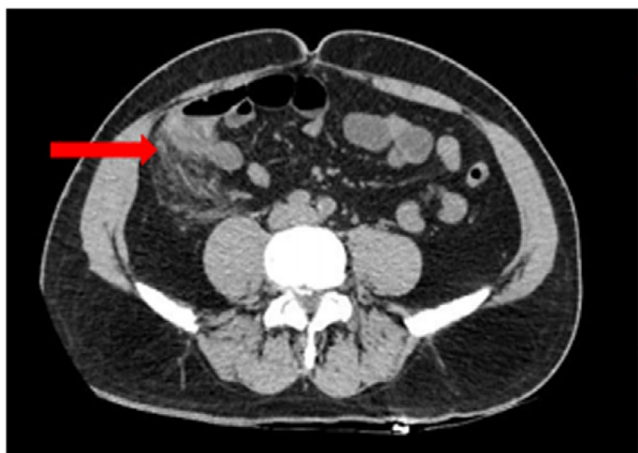


FIGURE 1 CT scan findings

Stump appendicitis can occur mainly in patients who have undergone both laparoscopic and open appendectomy, and the interval between the initial appendectomy and the new presentation can range from 4 days to 50 years.^{3–5} (10 months for our patient).

Many risk factors are reported in the literature: Due to the lack of three-dimensional perspective and the absence of a tactile return, the laparoscopic approach could, at least in theory, increase the incidence of stump appendicitis.⁵ However, a review of the literature by Subraman et al. showed that many cases occurred after open appendectomy, implying that the laparoscopic technique may not be a major factor.⁶ Residual appendix stump >5 mm in length and retrocolic position are also risk factors for stump appendicitis.⁷

Clinical presentation of stump appendicitis is similar to acute appendicitis. They include pain, especially in the right iliac fossa, associated with nausea and vomiting,^{5,8} but none of these signs is specific. A history of appendectomy and non-specific clinical signs may delay diagnosis and management.

CT scan of the abdomen and pelvis is not specific for stump appendicitis and may mimic the semiology of acute appendicitis, that is, thickening of the cecal wall, localized fluid, or infiltration of the surrounding fat. If the remaining stump is rather long, it may be visualized as a tubular, thick-walled, or expanding structure.^{2,9} Diagnostic laparoscopy is the next diagnostic and therapeutic option in case of doubt.^{10,11} However, abdominal ultrasound can be highly accurate in diagnosing stump appendicitis, some authors suggest.⁴

Surgical resection (appendectomy) is the most appropriate treatment in the cases reported in the literature. The choice of laparotomy or laparoscopy depends on various factors such as the clinical condition of the patient and whether or not the diagnosis was made preoperatively.^{5,12} If the appendix stump can be easily identified and the cecum is not significantly inflamed, more extensive surgery should not be indicated. Some authors describe a critical view of the appendix similar to the critical view of safety of cholecystectomy to decrease the rate of this complication.⁶



FIGURE 2 Intraoperative imaging (laparoscopic view)

4 | CONCLUSION

Stump appendicitis is a rare complication whose incidence is increasing since the advent of laparoscopy. As symptoms are non-specific and in front of a history of appendectomy, it is often confused with other conditions making its diagnosis and management delayed. Surgical resection (appendectomy) is the most appropriate treatment in reported cases.

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Consent for publication of this manuscript was obtained from the patient.

CONFLICTS OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

Z Hadrich conceived the idea for the document and contributed to the writing and editing of the manuscript. B mroua contributed to the writing and editing of the manuscript. S Zribi reviewed and edited the manuscript. M Bouassida reviewed and edited the manuscript. H Touinssi contributed to the literature review, manuscript writing, editing, and review of the manuscript. All authors read and approved the final manuscript.

ETHICAL APPROVAL

Personal data have been respected.

CONSENT

Consent for publication of this manuscript was obtained from the patient.

DATA AVAILABILITY STATEMENT

Personal data of the patient were respected. No data are available for this submission.

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REFERENCES

1. Al-Tarakji M, Muhammad Ali S, Khalaf M, Shahid F, Mohamed SSI. Adenocarcinoma of stump appendicitis: an extremely rare pathology - a literature review. *Cureus*. 2020;12:e9482.
2. Enzerra MD, Ranieri DM, Pickhardt PJ. Stump appendicitis: clinical and CT findings. *Am J Roentgenol*. 2020;215:1363-1369.
3. Choi H, Choi YJ, Lee T-G, Kim DH, Choi J-W, Ryu DH. Laparoscopic management for stump appendicitis: a case series with literature review. *Medicine (Baltimore)*. 2019;98:e18072.
4. Kanona H, Al Samaraee A, Nice C, Bhattacharya V. Stump appendicitis: a review. *Int J Surg*. 2012;10:425-428.
5. Roberts KE, Starker LF, Duffy AJ, Bell RL, Bokhari J. Stump appendicitis: a Surgeon's dilemma. *JSLs*. 2011;15:373-378.
6. Subramanian A, Liang MK. A 60-year literature review of stump appendicitis: the need for a critical view. *Am J Surg*. 2012;203:503-507.
7. Dikicier E, Altintoprak F, Ozdemir K, et al. Stump appendicitis: a retrospective review of 3130 consecutive appendectomy cases. *World J Emerg Surg*. 2018;13:22.
8. Geraci G, Lena A, D'Orazio B, Cudia B, Rizzuto S, Modica G. A rare clinical entity: stump appendicitis. Case report and complete review of literature. *Clin Ter*. 2019;170:e409-e417.
9. Essenmacher AC, Nash E, Walker SK, Pitcher GJ, Buresh CT, Sato TS. Stump appendicitis. *Clin Pract Cases Emerg Med*. 2018;2:211-214.
10. Kumar A, Sharma A, Khullar R, Soni V, Baijal M, Chowbey PK. Stump appendicitis: a rare clinical entity. *J Minim Access Surg*. 2013;9:173.
11. Mejri A, Arfaoui K, Aloui B. Stump appendicitis: a myth that can become reality. *Pan Afr Med J*. 2020;36:274.
12. Manatakis DK, Aheimastos V, Antonopoulou M-I, Agalianos C, Tsiaoussis J, Xynos E. Unfinished business: a systematic review of stump appendicitis. *World J Surg*. 2019;43:2756-2761.

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