

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

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Abstract

Stump appendicitis has been reported after either open or laparoscopic appendectomy. Because of the low index of suspicion owing to a previous history of appendectomy, the diagnosis is often delayed and complications can occur. We report a 30-year-old patient with Stump appendicitis, who underwent completion appendectomy laparoscopally.

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Key clinical message :

Stump appendicitis is a rare delayed complication post-appendectomy and it represents a diagnostic problem as clinicians are often not very familiar with this pathology.

Key words :

Appendicitis, Stump appendicitis, Recurrent appendicitis.

INTRODUCTION :

Appendectomy is one of the most common emergency surgical operations (1% of all surgical procedures)[1]. Stump appendicitis is a rare complication after appendectomy and is caused by acute inflammation of the remnant part of the appendix. Because of the low index of suspicion owing to a previous history of appendectomy, the diagnosis of stump appendicitis is often delayed.

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

2. CASE PRESENTATION :

A 30-year-old woman with history of appendectomy 10 months ago, consulted the emergency department suffering with 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 is diffuse swelling or enlargement of the abdomen.

Base line investigations showed white blood cells 14500/mm³ with slight neutrophilia at 10450/mm³ and C-reactive protein 102 mg/dL.

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

A laparoscopic exploration was performed, it showed a 2cm 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 spiecemen confirmed that it was a vestigial appendix, with a length of 2.3 cm, and a width of 1.0 cm, with active inflammation.

Figure 1 : CT findings

Figure 2 : per-operative imaging (laparoscopic view)

3. DISCUSSION :

Stump appendicitis is one of the rare delayed complications of appendectomy first described in 2 patients by Rose in 1945. The incidence of stump appendicitis is about 1 in 50 000 cases even though the real incidence is probably higher due to underestimating of this entity. A modern review found 160 cases reported in surgical literature [2].

Stump appendicitis can occur in patients after both laparoscopic and open appendectomy, the interval between initial appendectomy and repeat presentation ranging from 4 days to 50 years [3-5] (10 months for our patient).

Many risk factors are reported in the litterature : at least theoretically, there is the potential for an increased incidence of stump appendicitis in laparoscopic surgery due to the lack of a 3-dimensional perspective, and the absence of tactile feedback [5]. However, a review of the literature by Subraman et al. showed more cases occurred after open appendectomy, implying that the laparoscopic technique may not be a major factor [6]. Remnant appendix tissue > 5 mm in length and retrocecal position are also risk factors for fecalitis and stump appendicitis [7].

The presenting symptoms of stump appendicitis are basically indistinguishable from those of primary appendicitis. They include pain that starts periumbilically and wanders to the right lower quadrant and is associated with anorexia, nausea, and vomiting [5,8], but no sign is specific. History of appendectomy and non-specificity of clinical signs may confuse diagnosis and delay management.

The CT findings of stump appendicitis may not be entirely specific and include cecal wall thickening, free or loculated fluid in the right paracolic gutter, and infiltration of the surrounding fat. If the remnant stump is of sufficient length, it might be visualized as a tubular, thick-walled, fluid-filled, enhancing structure with or without an adjacent fluid collection, much like typical acute appendicitis (before initial appendectomy) [2,9]. In the era of laparoscopy a diagnostic laparoscopy may prove to be the next diagnostic and therapeutic option in case of ambiguity [10,11]. However some authors suggest that abdominal Ultra-sound may well have a high accuracy in establishing the diagnosis of stump appendicitis [4].

Surgical resection seems to be the treatment of choice in the reported cases. The choice of either laparotomy or laparoscopy depends on various factors like the patient's clinical condition and the local expertise and

resources [5,12]. A more extensive operation should generally not be required as long as the appendiceal stump can be readily identified and the cecum itself does not show evidence of a significant amount of inflammation. Some authors suggest an appendiceal critical view similar to that described for cholecystectomy [6].

4. CONCLUSION :

Stump appendicitis is a rare but serious complication of appendectomy, often confused with other conditions. History of appendectomy and non-specificity of clinical signs may confuse diagnosis and delay management. Surgical resection seems to be the treatment of choice in the reported cases.

5. Conflicts of interest

None declared

6. Data Availability Statement

Personnal data of the patient were respected. No data is available for this submission.

7. Acknowledgments

Published with the consent of the patients.

8. Authors' contrubution

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.

Ethic Statement : personal data have been respected

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Figures

Figure 1 : CT findings

Figure 2 : per-operative imaging (laparoscopic view)

