Surgical Management of a Retained Appendicolith

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Introduction

Appendicitis remains one of the most prevalent abdominal emergencies, with up to 250,000 cases reported annually according to the National Hospital Discharge Survey data [8]. Surgical resection of the appendix is the primary management approach. Hence, it is imperative for general surgeons to comprehend the nuances of appendicitis management and its potential complications. Postoperative complications following appendectomy encompass bleeding, wound infection, intra-abdominal abscess, injury to adjacent organs, and the rare occurrence of a retained appendicolith, with an incidence rate of less than 1% [2] .

Given the low prevalence of this complication, the optimal postoperative management remains unclear. Previous case reports have described different approaches to the managing retained appendicoliths, each tailored to the contextual factors of the individual case and varying in invasiveness. Successful outcomes have been reported in cases where conservative management was employed, involving percutaneous drainage of abscess and antibiotic therapy [1]. Additionally, there are reports of successful retrieval of dropped appendicoliths through percutaneous approaches [6], as well as instances where exploratory laparotomy was necessary.

This case report highlights a long-term complication resulting from a retained appendicolith and underscores the significance of its surgical removal of retained appendicolith. There are many surgical approaches for retrieval and this case describes a laparoscopic approach while using an interventional radiologic drain to manage abscess and assist with localization.

Patient Presentation

A 62-year-old female patient underwent laparoscopic appendectomy for perforated appendicitis approximately 13 years ago. Following the surgery, she experienced recurrent right lower quadrant abdominal pain, prompting repeat CT abdomen and pelvis scan which revealed retained appendicolith. Initially, conservative management with observation was initially recommended by primary general surgeon. Despite multiple hospital visits for abdominal pain and intra-abdominal abscess related to the retained appendicolith, only medical management with antibiotic was pursued.

She remained asymptomatic for 10 years but subsequently developed recurrent intermittent R-flank pain along with the formation of fluid collection over a span of 3 years. It was managed with antibiotic without surgical intervention. She remained asymptomatic for 10 years but subsequently developed recurrent intermittent R-flank pain along with the formation of fluid collection over a span of 3 years [Fig 1]. It was managed with antibiotic without surgical intervention.

She returned to emergency department with worsening right side flank pain and was diagnosed with a large retroperitoneal abscess associated with the appendicolith [Fig 2]. The decision was made to intervene surgically given the recurrent abscesses, and pain. The drain was placed to the abscess by radiology [Fig 3].

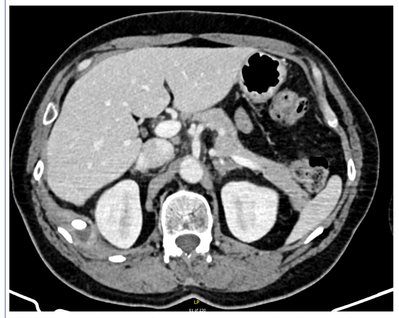


FIG 1. Axial view of retained appendicolith in May 2021

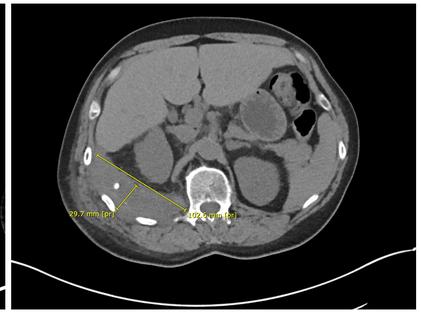


FIG 2. Axial view of Abscess in Jul 2023

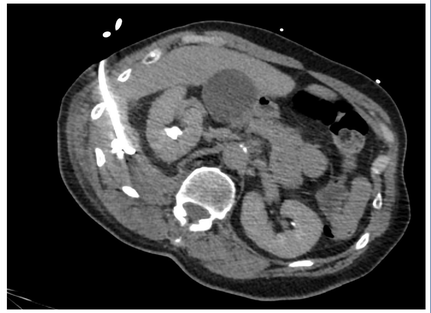


FIG 3. Axial view of drain placement in Jul 2023

Subsequently diagnostic laparoscopy was performed. Lateral peritoneal reflection at the border of the right colon and hepatic flexure was incised cephalad with EnSeal device [Fig 4]. As this continued there was evidence of purulent fluid as well as abundant granulation tissue [Fig 5]. The percutaneous drain tubing was visualized [Fig 6]. Adjacent to the tip of the drain, there was a foreign object, consist with preoperative imaging and description of an appendicolith [Fig 7]. This was grasped and removed from the cavity. This was placed in an Endocatch bag and removed from the abdomen. The cavity was irrigated and suctioned. 19 French Blake drain was placed. The patient recovered without complications and was discharged safely on postoperative day 2.

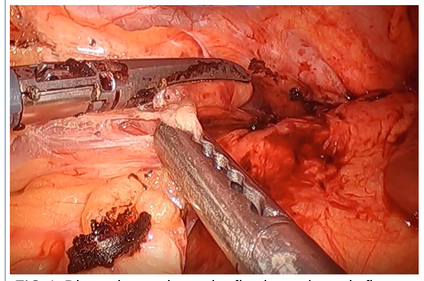


FIG 4. Dissection peritoneal reflection at hepatic flexure

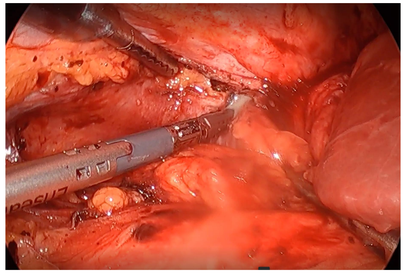


FIG 5. Abscess cavity

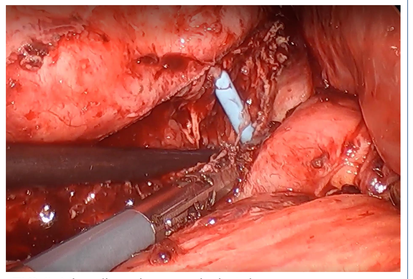


FIG 6. Visualize abscess drain tube

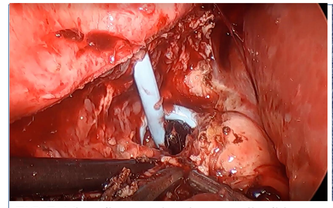


FIG 7. Visualize retained appendicolith

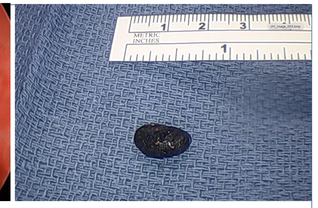


FIG 8. Retrieved retained appendicolith

She was seen in the clinic two weeks following the operation and was noted to be doing well with improved pain, diet tolerance, and free of fevers. Given the minimal serosanguinous output from the drain, it was discontinued. She was instructed to follow up only as needed.

Discussion

Appendicitis, requiring surgical intervention, stands as the most common abdominal emergency. Surgeon must be well-versed in managing postoperative complications stemming from appendectomy. A retained appendicolith, although a rare complication, poses a challenge in determining the optimal management strategy.

Various managements strategies for retained appendicolith have been documented in case reports. Conservative approaches, including percutaneous drainage and antibiotic therapy, have yield successful outcomes in select cases [1]. Others have reported successful appendicolith retrieval via percutaneous methods [6] or exploratory laparotomy [5].

This case report sheds light on laparoscopic appendicolith retrieval approach. Additionally, a radiologically placed drain aided in localization. Laparoscopic approach circumvented the need for more invasive open surgery, offering multiple avenues for successful appendicolith retrieval.

References

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