

Case Report

Giant free lying appendicolith perforated through the mid segment of appendix

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ABSTRACT

Appendicoliths, though typically small and asymptomatic, occasionally manifest as giant calculi exceeding 2 cm in diameter and can precipitate acute appendicitis.¹ This case report delineates the presentation, diagnostic challenges, and management of a rare 2.2 cm appendicolith-induced acute appendicitis in an adult male patient. Despite financial constraints necessitating an open appendicectomy, the procedure resulted in a successful clinical outcome without postoperative complications.

Keywords: Appendicolith, Appendicitis, Appendiceal perforation

INTRODUCTION

Giant appendicoliths, exceeding 2 cm in size, are infrequent occurrences within the appendiceal lumen and pose diagnostic and therapeutic dilemmas due to their association with acute appendicitis and potential complications. They are more prevalent in children and young adults, particularly in males, and with the presence of a retrocecal appendix.² Acute appendicitis typically presents with colicky peri-umbilical abdominal pain that localizes to the right lower quadrant, but atypical presentations are more common in children, geriatric, and pregnant patient populations, leading to delays in diagnosis.³ Grossly, simple appendicitis is of two major forms: obstructive and catarrhal appendicitis. Acute appendicitis in adults is often obstructive in type and sequel to some form of luminal obstruction by fecoliths, lymphoid tissues, or rarely foreign bodies.⁴

CASE REPORT

A 26-year-old male patient presented to the outpatient department with 3 days history of intermittent colicky

pain mainly in right lower quadrant and suprapubic region. The patient had fever, few episodes of loose stools, mild dysuria, and urinary retention for 1 day. He denied any complaints of vomiting, nausea, hematuria, or urethral discharge. His temperature was 37°C, heart rate was 115/min and blood pressure was 110/70 mmHg. Abdominal examination revealed distension in suprapubic region and mild tenderness in hypogastric region along with voluntary guarding on deep palpation of lower abdomen. The groin examination did not show any hernia and external genitalia was normal. The blood reports revealed leukocytosis with neutrophilia. Foley's catheterization was done in view of over distended bladder and app. 300 ml urine was drained. CT Abdomen was done which revealed dilated appendix with suspicious perforation and a radio-opacity (app. 2×1 cm) probably a faecolith near terminal loops of ileum with diffuse mesenteric fat stranding in lower abdomen. Hence, he was taken for exploratory laparotomy which revealed dense adhesions with thick flakes around terminal ileal loops and caecum localizing the spillage and inflammation. The adhesions and flakes were carefully separated unveiling a perforated appendix with

perforation lying in its midlength which is quite a rarity as per literature as most of perforations are either at tip or at root of appendix.⁵ Further exploration revealed a free lying faecolith of size 2.2×1×1 cm which was carefully retrieved and appendectomy was done. Generous wash was given and abdomen was closed in layers after placing abdominal drain. Histopathological examination was consistent with perforated appendix with dense acute on chronic inflammation. Postoperative recovery of the patient was good and uneventful.



Figure 1: CT abdomen showing radio-opacity (app. 2×1 cm) probably a faecolith.



Figure 2: Perforated appendix in its midlength with arrow showing thick flakes.



Figure 3: Free lying Faecolith in the peritoneal cavity.



Figure 4: Faecolith measuring 2.2x1x1 cm.



Figure 5: Appendectomy specimen showing perforation in its mid length.

DISCUSSION

Acute appendicitis stands as a prevalent cause of sudden abdominal pain seen in emergency departments globally. This condition involves the acute inflammation of the vermiform appendix, typically located at the terminus of the cecum in the lower right quadrant of the abdomen.⁶ Fitz's 1886 report marked the first documentation of acute appendicitis, with Wangenstein and Bowers later suggesting an obstructive element as a potential trigger in 1937.⁷ Other proposed causes encompass lymphoid hyperplasia, constipation, trauma, diet, genetic factors, hypersensitivity, and mucosal ulceration. Appendicoliths, often found in children and young adults, show a male and retrocecal appendix predilection, with low-fiber diets amplifying the risk of faecolith formation.

Diagnosing appendicitis typically relies on characteristic symptoms such as colicky abdominal pain, nausea, vomiting, and a mild fever.⁸ However, these symptoms may only manifest in about half of cases, presenting a diagnostic challenge, especially in certain patient demographics.⁹ Atypical presentations are common, particularly in young children, where symptoms may include abdominal distension, palpable masses, abdominal wall cellulitis, irritability, diarrhea, and pain during movement. Conversely, adults might present with

diminished pain perception, abdominal distension, and signs of peritonitis such as rigidity and guarding.¹⁰ Pregnant women may exhibit unusual symptoms like right hypochondriac pain, dyspepsia, pelvic discomfort, flatulence, and changes in bowel habits. Such atypical presentations pose diagnostic hurdles, especially in extreme age groups, potentially leading to missed diagnoses, complications, and even mortality.¹¹ While a plain abdominal X-ray can reliably detect appendicoliths (70%), computed tomography (CT) outperforms, even spotting non-calcified ones. On CT scans, appendicoliths manifest as laminated bodies with gas or homogenous opacity. Symptomatic appendicoliths bear a 90% chance of acute appendicitis and a 50% elevated risk of perforation and abscesses. Yet, varying correlations exist between CT-detected appendicoliths and appendicitis diagnosis, with Lowe et al reporting a 65% sensitivity, 86% specificity, and 74% positive predictive value.⁶ The management of appendicitis hinges on whether it's uncomplicated or complicated by factors such as perforation, abscess, or phlegmon. Non-operative management, including observation, restricted oral intake, and intravenous/oral antibiotics, suffices for uncomplicated cases.¹² In instances of abscess or phlegmon formation, percutaneous or transrectal drainage may be necessary.¹³ However, recent evidence favors operative intervention, with interval appendectomy recommended post non-operative management to mitigate future appendicitis-related readmissions. Urgent surgery is imperative for cases of complicated appendicitis with generalized peritonitis.¹⁴ In our case, the initial presentation mimicked a urological issue, with suprapubic distention and colicky abdominal pain with mild tenderness in the suprapubic region. Although these findings can accompany a perforated appendix, the non-contrast CT scan revealed no urological problems but gave suspicion of an appendiceal perforation which mandated the need of urgent surgical intervention.

CONCLUSION

Acute appendicitis is a clinical diagnosis but in certain cases with atypical presentations, diagnostic dilemma may exist and CT scan comes to the rescue in such cases avoiding unnecessary delay in the management.

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