

An Accidental Rare Case Report of Appendicolith

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Abstract: A 24 year old male patient was admitted to emergency department of K.D medical college Mathura, U.P., three days ago with abdominal pain, nausea and vomiting. In conclusion, after widespread use of CT, appendicoliths were encountered more commonly. They have different clinical presentation. While most of the cases are asymptomatic, appendicoliths may also cause appendicitis with serious complications including perforation and intra-abdominal abscess formation.

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I. Background

In this study, we reported a case operated on for appendicitis, caused by appendicolithiasis. Appendicitis is a common surgical emergency, affecting nearly 7% of the population in a lifetime. Laparoscopic appendectomy is widely gaining acceptance as the treatment of choice of patients with acute appendicitis and is advocated by the European Association for Laparoscopic Surgery even for perforated appendicitis¹. An **appendicolith** is a calcified deposit within the appendix. They are present in a large number of patients with acute appendicitis and may be an incidental finding on an abdominal radiograph or CT.

Appendicolith may obstruct the appendix lumen, causing appendicitis and is found in approximately 10% of patients with appendix inflammation.² Appendicitis which is caused by appendicolith is more commonly associated with abscess formation.

Appendicoliths are more commonly encountered after the development of imaging techniques in recent decades. They can present with different clinical symptoms. Most of the patients with appendicoliths are asymptomatic. However, appendicoliths may also cause serious appendicular inflammation and peritonitis.

II. Case Report

A 24 year old male patient was admitted to emergency department, three days ago with abdominal pain, nausea and vomiting. On physical examination there was minimal tenderness in the right lower quadrant. Laboratory test including leucocyte count, urine analysis, hepatic and renal function tests were normal. A stone, approximately 1 cm in diameter inside the right pelviureteric junction as detected in abdominal USG. The diagnosis of renal colic had been established and the patient was treated with analgesics. He was readmitted to emergency room after three days with continuous abdominal pain, nausea and vomiting. His vitals were normal. On physical examination there was rebound tenderness in right lower quadrant and Mc Burnys sign was positive. WBC Count was 13,400 cell/mm³ (Normal-4,800-10,800 cell/mm³) and neutrophilia was there and CRP was 12.5mg/dl (Normal-0.0-1.0 mg/dl). Abdominal computed tomography revealed an opacity, 1.5 cm in diameter, inside appendix. Laparotomy was performed intraoperative finding reveals a mass of omentum, distal ileum along with appendix was there (phlegmon) adhesiolysis was done and appendicolith was found. On Histopathological examination received swollen reddish inflamed appendix measuring 5.5cm in length and 4cm in diameter. On cut surface the wall thickness was increased to 1.8cm, mucus filled inspissated material, calcified deposits came out. On microscopy appendix shows chronic inflammatory cells predominantly lymphocytes, plasma cells and neutrophils in all the layers. Scattered lymphoid aggregates with fibrous adhesions seen.

III. Discussion

The obstruction of the lumen triggers the inflammation process in the appendix. The most common pathologies associated with lumen obstruction are lymphoid hyperplasia, fecalith, stricture and appendicolith. Stasis and bacterial colonization in the appendix lumen result in appendicitis.

The appendicolith is formed by firm, dense stool and mineral deposits. It is also known as appendiceal calculi, appendiceal enterolith or appendicular lithiasis. Appendicoliths are usually seen in pediatric populations and young adults. They are detected more frequently in men.³ As a nidus for appendicolith, the prevalence of fecalith has been reported as 3% in the population by Jones et al. They also stated that the low-fiber diet has been associated with increased risk of fecalith formation.⁴

Most appendicoliths are asymptomatic. They are usually detected incidentally with CT in an otherwise normal appendix. Robinowitz et al⁵ conducted a study on 74 patients with appendicolithiasis. They followed-up patients without surgery, in their first presentation. Fifty-two of these patients (70%) did not return with any complaint. Twenty-two patients were re-admitted with abdominal pain and appendectomy was performed. There were only five patients with inflamed appendix at operation. They concluded that an appendicolith may be associated with increased risk of appendicitis but was not a pure indication for appendectomy. One of our patients presented with classical signs of acute appendicitis. He was diagnosed as acute appendicitis with giant appendicolith in exploration. The appendicolith was found in the base of the appendix. Although it was a very huge stone, there was no signs of gangrene or perforation. We found only two cases of giant appendicolithiasis reported in the literature.^{6,7}

Appendicoliths are seen in about 10% of patients with acute appendicitis.¹ They are more frequently associated with appendix perforation and abscess formation.^{8,9} The appendicolith obstructs the appendix lumen. It also destroys the mucosa with its local mass effect. Appendicolith may cause intermittent abdominal pain. It may mimic stone disease of the genitourinary tract. Sometimes it can be difficult to differentiate acute appendicitis from urolithiasis. Both of these pathologies may cause leukocytosis and hematuria. Abdominal findings such as right lower quadrant pain and rebound tenderness can be detected in appendicitis and urolithiasis. Appendicoliths can be detected in abdominal x-ray when they are sufficiently calcified. USG and CT may also help in the diagnosis of an appendicolith. The patient, in case 3 was misdiagnosed as urolithiasis with USG in his first admittance. The definitive diagnosis of appendicitis and appendicolithiasis could be done with abdominal CT.

Retained, or dropped, appendicolith is a rare complication that can occur as a consequence of stone expulsion from the appendix before or during appendectomy. The appendicolith can be a nidus for future intraabdominal abscess formation; therefore, recognition of its presence is of great clinical significance in the care of patients with postappendectomy abscesses¹⁰

In conclusion, after widespread use of CT, appendicoliths were encountered more commonly. They have different clinical presentation. While most of the cases are asymptomatic, appendicoliths may also cause appendicitis with serious complications including perforation and intra-abdominal abscess formation.

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