Case report

A GIANT FECOLITH IN PELVIC ACUTE APPENDICITIS: A CASE REPORT

Abstract

Appendicoliths are calcified deposits within the appendiceal lumen, usually measuring less than 1 cm in diameter. Appendicoliths greater than 2 cm in the largest diameter are uncommon and called giant appendicoliths. Generally, patients with giant appendicoliths are asymptomatic, with these being detected incidentally on abdominal X-ray or computed tomography (CT). However, the presence of appendicoliths is associated with an increased risk of developing appendicitis and may be associated with complicated appendicitis.

Our case report is for a 23-year-old male patient who presented to came to casualty with a two-day history of right iliac fossa pain, nausea, vomiting, loose motion, and decreased of appetite. The abdominal x-ray showed a radio-opaque shadow in the pelvis. CT of the abdomen and pelvis with IV contrast showed acute appendicitis with a calcified 2.5 cm giant appendicolith. laparoscopic appendicectomy was performed. the patient was doing well postoperatively with no postoperative complications, and the patient was discharged home after one day. The patient was reviewed after two weeks at the SOPD with no complaints.

Keywords: Appendicitis, laparoscopic appendectomy, Giant appendicolith, General Surgery

Introduction

One of the most common causes of emergency surgery is Acute appendicitis (1). Acute appendicitis can be caused by gastrointestinal infections or by appendicolith (2). Appendicular lumen obstruction either by lymphoid hyperplasia, appendicoliths, tumors, or foreign bodies explains the pathophysiology of acute appendicitis in most cases. This results in a rise in intraluminal pressure, the collapse of lymphatic vessels, collapsed veins, and decreased arterial flow, consequently leading to necrosis and perforation (3,4). When appendicoliths are present, perforation or abscess formation is a more common sequela of appendicitis. Very few cases of giant appendicoliths have been reported in the literature, with the largest measuring 3.5 cm in diameter (5). Most cases of appendicoliths are asymptomatic. However, it represents a well-known cause of acute appendicitis, the reason for intermittent chronic abdominal pain, and is associated with an increased risk of perforation or abscess formation (6,7). It may also present as a colicky pain, in which urolithiasis may be considered a differential diagnosis (8). On the other hand, there are many causes for calcifications in the right iliac fossa: Gallstone ileus, renal or extruded vesical calculi, phlebolith, calcified uterine fibroid tumor, lithopedion, genitourinary tract calcifications, ovarian tumors, rejected renal allograft, calcified lymphatic ganglia, foreign bodies, or radiologic artefact (9,10).

CASE REPORT

A 23-year-old male with no known comorbidities presented with a complaint of abdominal pain for 2 days. The pain initially started in the peri-umbilical region and migrated to the Right Iliac Fossa. It was acute in onset and continuous in nature associated with nausea and vomiting twice. The patient has no history of fever or change in bowel and bladder habits. No significant past medical or surgical history.

On physical examination, his vitals were within normal range. The abdomen was soft, with mild tenderness at the lower right abdomen. The Psoas test, Obturator test, and Rovsing sign were negative. His complete blood count on admission showed that the WBC was 14.7 (Neutrophils =10.6), and hemoglobin and platelets were within normal limits. The X-ray of the abdomen (figure 1) showed a radio-opaque shadow in the pelvis. The CT abdomen (figure 2) with IV contrast revealed acute appendicitis with large hyperdense calcification about 25 mm in the largest diameter with fat stranding and minimal fluid in the pelvis. The patient was initially managed in the ER, he was kept NPO, and IV fluids were started by Normal Saline. IV antibiotics (Ceftriaxone and Metronidazole) were initiated. The patient was shifted to the ward to be prepared for laparoscopic appendectomy. The post-operative day was smooth, and he was discharged home on the second day. At the follow-up after 2 weeks, the patient was very well, and surgical stitches were removed.

DISCUSSION

Appendicoliths are solid deposits within the appendiceal lumen that are composed of faecal matter and mineral deposits (11). They are usually less than 1 cm in size. If their size is greater than 2 cm, then they are termed giant appendicoliths (11). The largest giant appendicolith reported in the literature was 3.5 cm in diameter in a patient with Crohn's disease and stump appendicitis (Our case had 2.5cm faecolith). In several studies, appendicoliths have been reported as the cause of 20%–40% of acute appendicitis. It usually occurs in male patients under 35 years of age (our case is 23 years old) who have a retrocecal appendix (12). The obstruction of the proximal appendiceal lumen results in closed-loop obstruction, which leads

to an increase in luminal pressure. This increase in luminal pressure can lead to a series of events, from congestion and ischemia of the appendiceal wall to gangrene and perforation if unresolved (1). The prevalence of perforation and abscess formation in appendicitis associated with appendicoliths is 39.4%–50% (1). In various studies, appendicoliths were suggested to have 100% specificity for the diagnosis of acute appendicitis (13,14). Some researchers have demonstrated the possibility of an appendicolith without acute appendicitis (15-17). There is a debate between open appendectomy (OA) or laparoscopic appendectomy (LA) versus nonsurgical management with antibiotics for the treatment of appendicitis. However, various studies have found that patients treated with nonoperative management for appendicitis associated with an appendicolith have a higher rate of complications (1).

We managed our patient laparoscopically, and no complications either intraoperative or post-operative were found.

CONCLUSION

The case of giant appendicoliths is rare and their clinical presentation can sometimes be not so apparent. However, when complicated, they can associate acute appendicitis with the risk of perforation ,abscess formation, and may be peritonitis for which an emergency appendectomy is preferred.

Figure 1: Pelvic X-ray.

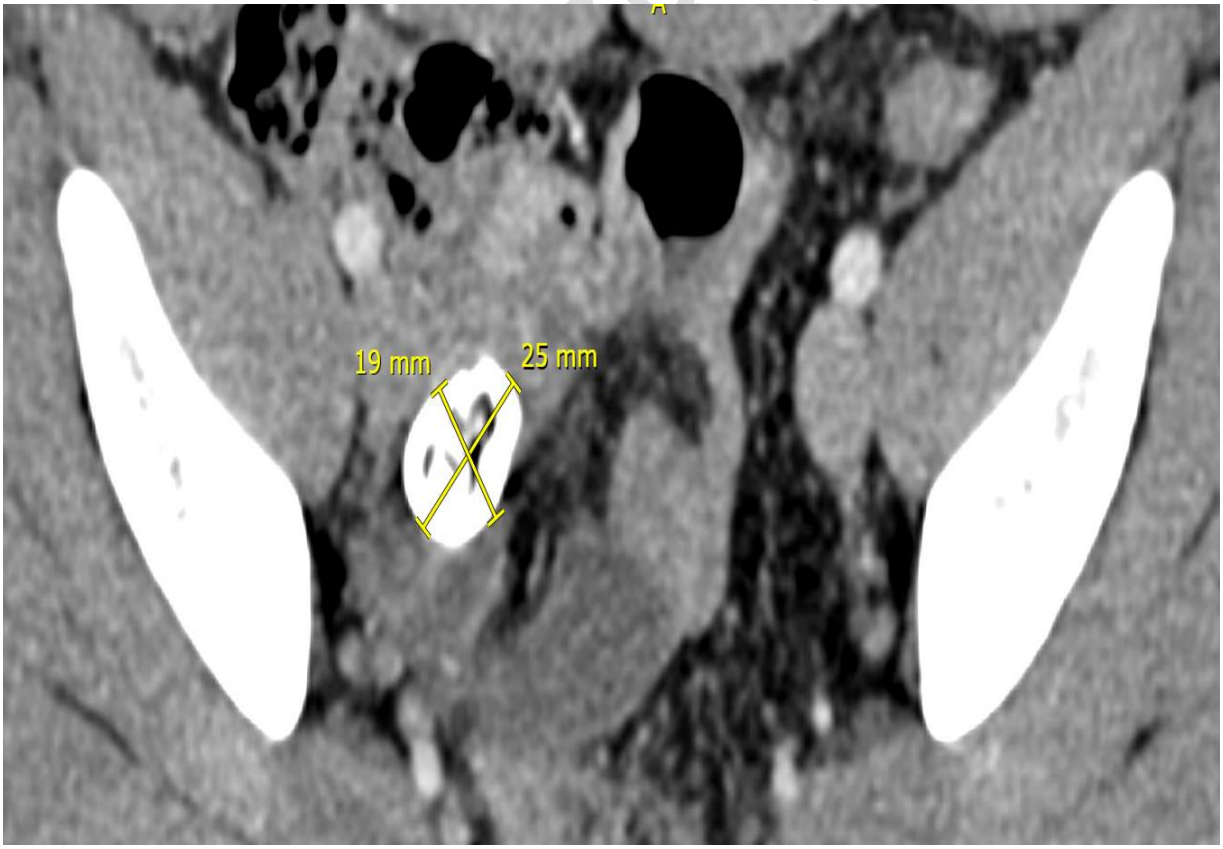

Figure 2: the CT of the abdomen.

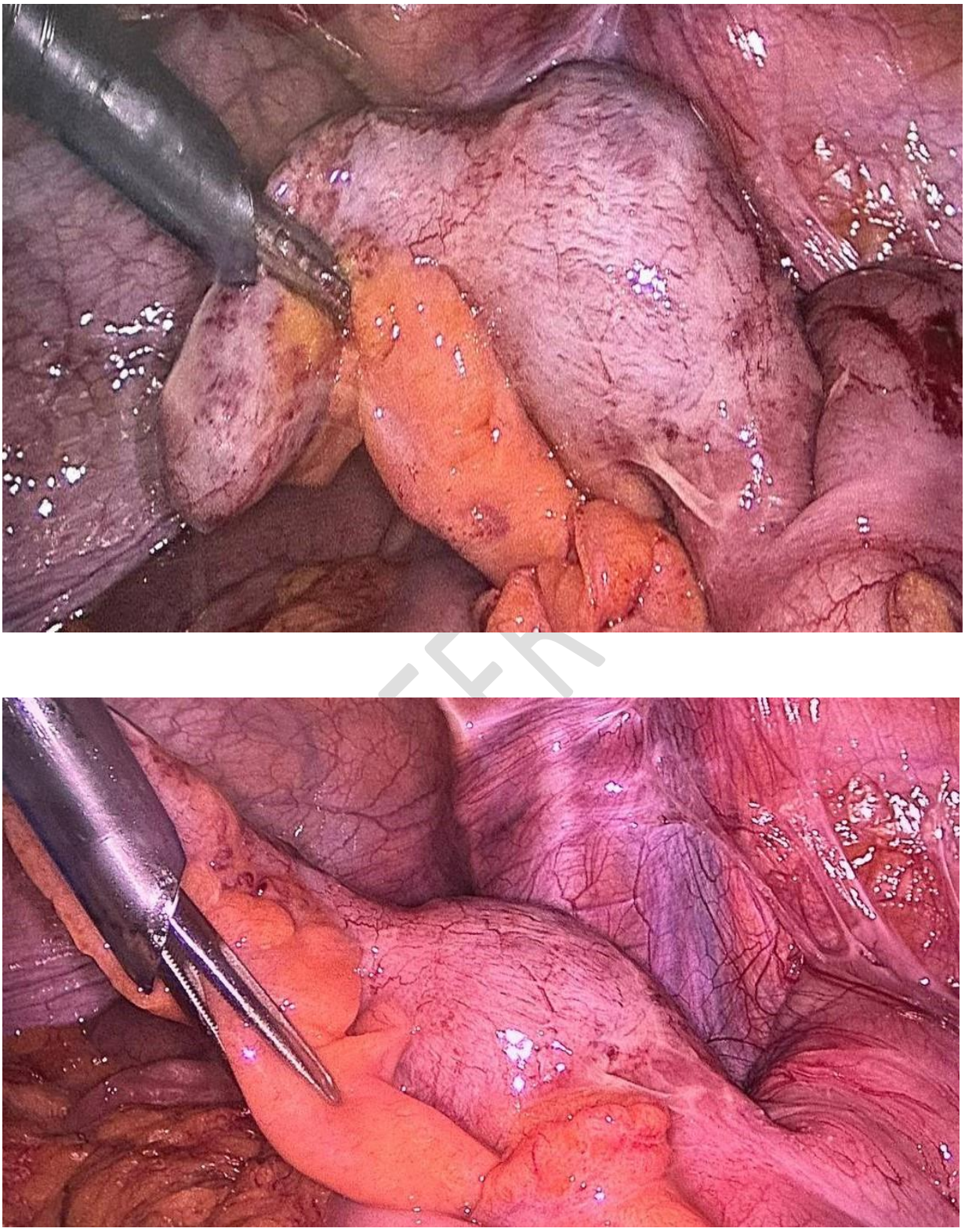

Figure 3: Intraoperative image.

Figure 4: Postoperative image.

ETHICAL APPROVAL

As per international standards or university standards, written ethical approval has been collected and preserved by the author(s).

CONSENT

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

References

1. Pahissa RA, Lin-Hurtubise KM. Giant appendicolith: a case report and review of the literature. Mil Med. 2020;185(9–10):E1851-E1853.

2. Kaya B, Eris C: Different clinical presentation of appendicolithiasis. The report of three cases and review of the literature. Clin Med Insights Pathol. 2011, 4:1-4. 10.4137/CPath.S6757.

3. Flum DR. Acute Appendicitis — Appendectomy or the “Antibiotics First” Strategy. N Eng J Med. 2015;372(20):1937-1943.

4. Petroianu A, Villar Barroso TV. Pathophysiology of Acute Appendicitis. JSM Gastroenterology And Hepatology. 2016;4(3):4-7.

5. Scroggie DL, Al-Whouhayb M: Asymptomatic giant appendicolith managed conservatively. J Surg Case Rep. 2015, 2015:rjv149. 10.1093/jscr/rjv149.

6. Grimes C, Chin D, Bailey C, Gergely S, Harris A. Appendiceal faecoliths are associated with right iliac fossa pain. Ann R Coll Surg Engl. 2010;92(1):61-64.

7. Vyas RC, Sides C, Klein DJ, Reddy SY, Santos MC. The ectopic appendicolith from perforated appendicitis as a cause of tuba ovarian abscess. Pediatr Radiol. 2008;38(9):1006-1008.

8. Teke Z, Kabay B, Erbiş H, Tuncay ÖL. Appendicolithiasis causing diagnostic dilemma: a rare cause of acute appendicitis (report of a case). Ulus Travma Acil Cerrahi Derg. 2008;14(4):323-325.

9. Salahi, M., Patel, H. and Knuttinen, M.G. (2015) Calcified Pelvic Masses on Radiographs: A Case Report and Discussion. Internal Medicine, 54, 1451-1454.

10. Singh, H., Neutze, J.A. and Enterline, J.R. (2015) Abdominal Calcifications. In: Neutze, J.A., Enterline, J.R. and Singh, H., Eds., Radiology Fundamentals: Introduction to Imaging & Technology, Springer, 157-162.

11. Rampersad CA, Rampersad FS, Ramraj PR, Seetahal VV. Case of a Giant Appendicolith. Cureus. 2022;14(2):e22034.

12. Giant Appendicolith in Acute Exacerbation of Chronic Appendicitis: Case Report and Literature Review. Available from: https://www.scirp.org/journal/PaperInformation.aspx?- PaperID=80365.

13. Kim, D., Butterworth, S.A. and Goldman, R. (2016) Chronic Appendicitis in Children. Canadian Family Physician, 62, e304-e305.

14. Rao, P.M., Eittenberg, J., McDowell, R.K., Rhea, J.T., et al. (1997) Helical Computed Tomographic Incidence and Characterization of Appendicoliths in 100 Patients with Appendicitis. Emergency Radiology, 4, 55-61. https://doi.org/10.1007/BF01508029.

15.Lowe, L.H., Penney, M.W., Scheker, L.E., Perez, R., et al. (2000) Appendicolith revealed on CT in Children with Suspected Appendicitis: How Specific Is It in the Diagnosis of Appendicitis? AJR American Journal of Roentgenology, 175, 981-984.

16.Huwart, L., El Khoury, M., Lesavre, A., Phan, C., et al. (2006) Le stercolithe est-il un signe fiable d'appendicite? [Is Appendicolith a Reliable Sign for Acute Appendicitis at MDCT?] Journal de radiologie, 87, 383-387.

17.Ramdass, M.J., Sing, Q.Y., Milne, D., Mooteeram, J., et al. (2015) Association between the Appendix and the Fecalith in Adults. Canadian Journal of Surgery, 58, 10-14. https://doi.org/10.1503/cjs.002014.