

## Clinical Image

# A case of Appendicitis on contrast CT abdomen

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A 61 years old Bangladeshi gentleman S/P TAVI(2020) due to severe aortic stenosis with AR (grade III) , Coronary Artery Disease, HTN, Obstructive Sleep Apnoea was admitted on 21<sup>st</sup> December 2021 through emergency under Department of Gastroenterology with the complaints of abdominal pain associated with constipation for 4 days, vomiting and fever for one day. On Examination patient had diffuse abdominal pain with tenderness in right lower abdomen was being treated conservatively. Contrast CT abdomen on next day showed finding corresponds to acute appendicitis with impacted appendicolith within it (Figure 1). On the same day he had several episode of vomiting followed by massive hematemesis leading to hypovolemic shock. An emergency endoscopy done which showed Mallory Weiss tear and on table sclerotherapy done. Then patient was shifted to ICU for further close monitoring. Patient was treated conservatively with injectable antibiotics, opiates, Blood transfusion and was kept nothing per oral with gradual administration of liquid diet orally after 4 days of that event. Decision of interval appendisectomy was taken as patient's infective markers were raised.

### Discussion :

Fecalith is one of the causes of acute appendicitis in adults. Other factors are parasites, undigested plant residues, foreign bodies and trauma. A fecalith is a fecal concretion that can obstruct the appendix leading to acute appendicitis and commonly known as appendicolith<sup>1-3</sup>. Appendicolith is found in 10% patients with Appendicular inflammation. Appendicolith induced appendicitis is most commonly associated with perforation and appendicular abscess<sup>4</sup>. But study also conclude that the fecalith is merely an incidental finding, asymptomatic Appendix may also contain fecalith and is not the primary cause of acute (nonperforated) or gangrenous (perforated) appendicitis<sup>1</sup>.

Appendicolith may be originated from accumulation of fecal matter if someone is constipated, calcified fecal deposits, trauma to the abdomen, tumors, enlarged lymph node and glands, worms, a build up of foreign substances like stones marbles and pins. Others causes of calcific areas of high attenuation in the abdomen include dropped gallstones, calcified epiploic appendagitis, dropped surgical clips and calcified mesenteric lymphnodes. Appendicolith can remain asymptomatic and can be detected incidentally. Symptomatic appendicolith usually presents with feature of acute abdomen, like severe right iliac fossa pain, abdominal distention, nausea, and can be associated with fever, vomiting, constipation , rarely features of intestinal obstruction, Mallory Weiss like our patient<sup>4</sup>. Appendicitis mimics are ureteric colic, tumor, Inflammatory bowel disease, Infectious enterocolitis, radiation enteritis, neutropenic colitis, diverticular disease and diverticulitis, meckels diverticulitis, sulpingitis<sup>5-9</sup>.

Retained or dropped appendicolith is a rare complication after open or laparoscopic appendisectomy<sup>7,10</sup>. Time between appendisectomy and symptomatic dropped appendicolith may vary from 10 days to several years<sup>10</sup>.

Symptomatic appendicolith are more frequently associated with appendix perforation and abscess formation, gangrene in the appendix is inevitable<sup>5</sup>. Complications of dropped appendicolith are intraabdominal abscess, delayed wound healing, fistula in the wound site<sup>10</sup>.

Fecalith in appendix can be diagnosed by Ultrasonogram of abdomen, CT scan of abdomen, MRI. Appendiceal CT scans are considered to be 98% accurate in diagnosing acute appendicitis<sup>4,7,10</sup>.

Diagnosis and severity of Appendicitis can be assessed by several scoring system<sup>4</sup>.

Treatment of appendicitis depends on whether it is complicated or uncomplicated. In general, once acute appendicitis is diagnosed patient should be kept in nothing by mouth and should be put on intravenous crystalloid fluid, preferably ringer solution.

In case of uncomplicated appendicitis immediate appendectomy is the treatment of choice according to international guideline following a single preoperative dose of broad spectrum antibiotic. An antibiotic only approach can also be an option for selected patients with uncomplicated appendicitis. But an antibiotic only approach isn't recommended if an appendicolith is present as it may cause further complication<sup>4</sup>.

In case of complicated appendicitis, I/V antibiotics should be started immediately. Single or combination antibiotic regimen can be chosen based on local sensitivities and protocols.

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Duration of antibiotics is directed by patient's symptomatic improvement and blood parameters. Complicated appendicitis should be operated through laparotomy or laparoscopic method.

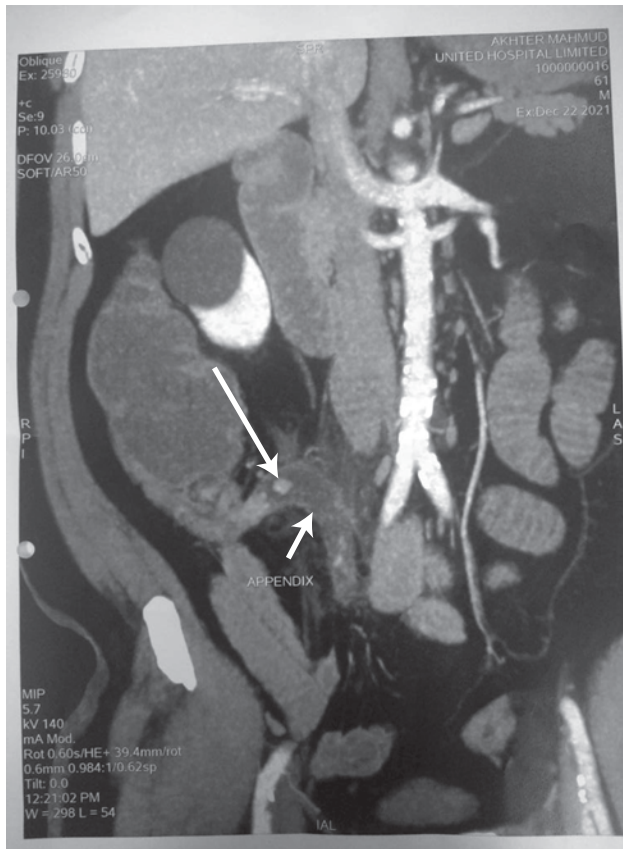


Figure 1: Contrast CT abdomen of patient showing appendicolith (long arrow) with swollen appendix (short arrow).

Management of appendicolith are open surgical method, CT guided drainage of abscess (if abscess present), laparoscopic removal of appendicolith with the use of laparoscopic ultrasound, per cutaneous imaging guided retrieval of fecaliths<sup>4,10</sup>.

Interval appendectomy is an approach that is performed after 6 weeks of symptom onset, if the symptoms are not

completely resolved. The presence of an appendicolith is predictive of failure of initial non-operative management. Non-operative appendicolith may lead to complicated appendicitis with recurrent intra-abdominal abscesses, wound infection fistula formation<sup>10,11</sup>.

Spillage of appendicolith during surgery should be avoided to prevent complication. Double ligation of appendicular base has been associated with less chance of spillage of appendicolith<sup>10</sup>.

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