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Case Report

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Rare presentations of acute appendicitis

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ABSTRACT

Acute appendicitis is the one of the most common emergency conditions that the rural surgeon must deal with. Though the majority of patients present with the typical symptoms of right iliac fossa pain, nausea and anorexia, many patients do present with atypical symptoms and signs. These patients present a challenge to rural surgeons. Acute appendicitis is a great mimic and can present with a variety of symptoms. The eyes don't see what the mind doesn't know and it is important to know the various ways in which appendicitis can present and to always keep it as a differential diagnosis while managing a patient with acute abdomen. In this paper we have looked at 4 different presentations of appendicitis. Appendicitis is a great mimic and should always be kept as a differential for acute abdomen.

Keywords: Acute appendicitis, Rare presentations, Epididymo-orchitis

INTRODUCTION

Acute appendicitis is the one of the most common emergency conditions that the rural surgeon must deal with.[1] Though the majority of patients present with the typical symptoms of right iliac fossa pain, nausea and anorexia, many patients do present with atypical symptoms and signs. These patients present a challenge to rural surgeons. We retrospectively analyzed the 49 appendectomies done in our center over a period of one year to assess the unusual presentations we had encountered. In this series we have presented a few of the cases with such abnormal presentations or associations.

CASE REPORT

Appendicitis and epididymo-orchitis (EO)

A 38-year-old male presented with acute onset of pain and swelling of the right scrotum which he attributed to minor trauma. On examination, he had right iliac fossa (RIF) tenderness along with a grossly enlarged and tender right testis. On further evaluation with ultrasonography (USG) of the scrotum and contrast enhanced CT (CECT) of the abdomen, right EO, funiculitis, a well- defined, thick- walled collection in the RIF, and a bulky and inflamed right spermatic cord were found.

He was started on intravenous ceftriaxone, metronidazole, and amikacin. After the CT scan, he underwent laparotomy with drainage of the abscess and appendicectomy following which, the testicular swelling and pain significantly reduced.

He was followed-up till the fourteenth post-operative day. He had improved clinically, and the testicular swelling had subsided completely.

Appendicular diverticulitis with mass

A 17 year-old patient presented with abdominal pain for seven days associated with fever and burning micturition. On examination, a mass was found in the right iliac fossa.

Conservative management which was attempted initially failed. Hence, she was taken up for surgery. Intraoperatively, an inflammatory mass involving the cecum and appendix was found, and she underwent limited right hemicolectomy. Her post-operative period was uneventful. The resected mass was pathologically revealed to be an appendicular and caecal diverticulitis with a perforation.

Appendicoliths

Three patients were found to have appendicoliths. The first patient was a 35-year-old lady who presented with intermittent episodes of abdominal pain for one month. The current episode was associated with bleeding per vaginum for one day. On examination, her abdomen was soft with no signs of peritonitis. An abdominal CECT was done which showed features of chronic appendicitis with a thick and dilated appendix measuring 15 mm in diameter with a large, 17 mm appendicolith at the base of the appendix. An open appendectomy was performed following which her symptoms improved.

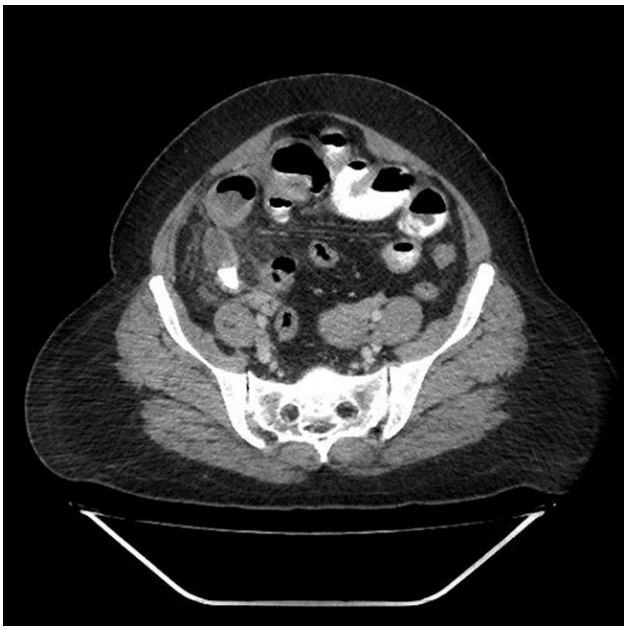

Figure 1: CECT abdomen axial image shows inflamed appendix with appendicolith in its base region.

The second patient was a 49-year-old lady with abdominal pain associated with distension for two days. On examination, she was found to have abdominal distension and features of peritonitis. CT showed an inflamed appendix with a large appendicolith at the base (Figure 1).

The third patient was a 23-year-old, primiparous lady at 14 weeks of gestation. She presented with complaints of abdominal pain and vomiting for three days. She underwent laparotomy since abdominal USG showed an intra-abdominal abscess and was unable to identify its cause. Intra-operatively, she was found to have appendicular perforation secondary to an appendicolith (Figure 2). Post operatively, she recovered well with no fetal or maternal morbidity.

Figure 2: Appendix with appendicolith.

Stump appendicitis

Two patients were found to have stump appendicitis. The first patient was a 46-year-old man who presented with pain in the right iliac fossa one year after laparoscopic surgery. A CECT abdomen was performed which showed a 3.2 cm appendicular stump with features of inflammation (Figure 3). An open appendectomy was performed following which he improved.

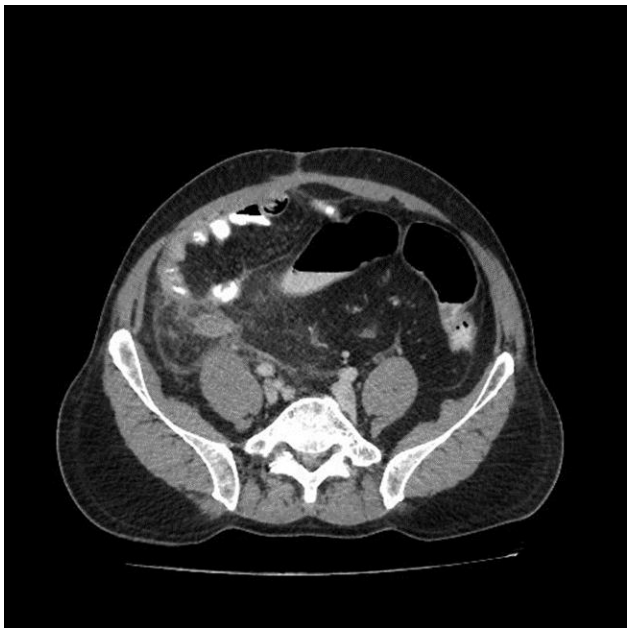

Figure 3: CECT abdomen axial image shows inflamed appendiceal stump.

Figure 4: CECT abdomen axial image.

Note: Inflamed appendiceal stump (⇨) with a collection and extra luminal air, tracking along the scar in right iliac fossa (↯) and base of caecum.

The second patient was a 31-year-old man in whom open appendectomy was performed two months back, presented with pain over the suture line. A CECT abdomen showed a 4.5 cm appendicular stump with a perforation at its tip (Figure 4). He underwent open appendectomy over the previous incision, following which his symptoms improved.

DISCUSSION

Appendicitis is one of the most common surgical emergencies in rural practice, and it affects all age groups, although it is more common in patients between 10 and 20 years of age. It has a variety of presentations, ranging from the classic right iliac fossa pain to abnormal presentations as described above.[2]

Making an accurate diagnosis in classic cases is simple, and Alvarado's score proposed in 1986 which holds good in most of these cases. Alvarado's score for acute appendicitis is as follows: "M", migration of pain to right lower quadrant =1; "A", anorexia =1; "N", nausea and vomiting =1; "T", tenderness in right lower quadrant =2; "R", rebound tenderness=1; "E", elevated temperature =1; "L", leukocytosis =2; and "S", shift of WBC count to left=1. A score of 5-6, 7-8, and 9-10 denote that the diagnosis is compatible with the appendicitis, propable appendicitis, and very probable appendicitis respectively.

Once acute appendicitis is clinically suspected, real-time ultrasonography can be performed. However, the investigation of choice for the diagnosis of appendicitis is contrast-enhanced CT of the abdomen, which has sensitivity and specificity of 94% and 95%, respectively.[3]

Once the diagnosis has been made, the treatment needs to be tailored as per the presentation of the patient and his or her severity of symptoms. The treatment options that are available include appendicectomy (laparoscopic or open), interval appendicectomy after six weeks of conservative management, and conservative management.

Though simple cases form the majority of patients with appendicitis, there are a few patients who can be expected to present with atypical symptoms, signs, associations, or all three of these. Discussed here are the various unusual ways in which an appendicitis can present. Though not comprehensive, this gives an idea about the great mimic.

Appendicitis and EO

EO is the inflammation of epididymis and the testes. It usually occurs due to the spread of a urinary tract infection via the lymphatic vessels or the ductus deferens. Other causes for EO include viral infections, trauma, autoimmune disorders, amiodarone use, surgical manipulations of the lower urinary tract, and urogenital malformations.

Very few cases of EO secondary to acute appendicitis have been reported in literature, and since it is an atypical presentation, it can be confusing and missed easily. EO secondary to acute appendicitis is thought to occur when pus tracks down a patent processes vaginalis.[4] In these cases, a thorough clinical examination makes all the difference to the progress of the patient. It can shorten the hospital stay and reduce morbidity and mortality

Appendicular diverticulitis with mass

Appendicular diverticulitis is a rare condition which presents similar to acute appendicitis and the severity of symptoms depends on the severity of diverticulitis.[5] The actual incidence is unknown, and in literature has been described between 0.014% and 3.7% as most of the time the diagnosis is not made and the patient presents with perforation or mass, at which time it is difficult to differentiate intra=operatively.[6] Some consider this a variation of acute appendicitis. But it is better to keep it in the back of the mind and 006dak an early diagnosis in as many cases as possible, as perforation in an appendicular diverticulitis is almost triple that of in the usual inflammatory appendicitis.[7]

Stump appendicitis

Due to an increase in laparoscopic appendectomies, there has been a rise in incidence of inflammation of the retained appendicular stump. Even though the patient presents with a typical symptoms and signs of appendicitis, the previous surgery provides a challenge to diagnose this. This can be prevented by accurately identifying the junction of the appendix and the cecum and making sure that the stump is less than 3mm and no

appendicolith is left behind.[8] CT is diagnostic and treatment is by surgical removal of the stump.[9]

Appendicoliths

Appendicoliths are formed by mixing of feces with some mineral salts. Their incidence in patients with acute appendicitis is approximately 10% and in 3% of the general population.[10] They present with recurrent episodes of lower abdominal pain, eventually leading to acute appendicitis. Once the obstruction is complete, they quickly lead to gangrene of the wall due to pressure effect, followed by perforation and abscess formation within 24 hours.[11] With the advent of CT, more and more appendicoliths are being detected incidentally. Though the presence of appendicolith by itself is not an indication for surgery, the patient has to be educated about the complications of the same and treatment should be tailored according to the needs of each and every patient. Giant appendicolithis are those which are greater than 2 cm in diameter and are rarely reported in literature.[12]

CONCLUSION

Appendicitis is a common surgical condition dealt by the rural surgeon and it can present in many different ways. It will be prudent of the surgeon to know the various atypical ways in which it can present and to always keep it as a differential in the back of the mind for all patients presenting with acute abdomen.

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