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Case Report

Paediatric caecal diverticulitis: a rare but important mimic of acute appendicitis

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ABSTRACT

Caecal diverticulitis is a rare cause of right lower quadrant pain, hence is frequently misdiagnosed as acute appendicitis. Diverticula in the caecum are usually solitary, considered to be congenital and more common in people of Asian descent. This case report highlights the need to consider caecal diverticulitis as a potential cause of right lower quadrant pain in paediatric populations, especially in those of Asian descent.

Keywords: Paediatric, Caecal, Diverticulitis

INTRODUCTION

Acute right iliac fossa (RIF) pain in paediatric patients typically raises suspicions of acute appendicitis. While appendicitis remains one of the most common pathologies necessitating surgical review and intervention of patients with this presenting complaint, other potential causes of this pain should be considered. One such pathology that can mimic acute appendicitis, is caecal diverticulitis. Colonic diverticulitis is a common presentation in older adults from Western backgrounds with majority of cases occurring in the sigmoid colon.[1] Right sided diverticulitis is more common in younger populations, particularly of Asian descent.[2] While majority of diverticula are false diverticula, that is, involve only the mucosal and submucosal layers, caecal diverticula, which are often singular, are true diverticula which contain all layers of the colon and are thought to be congenital.[3] These diverticula are often asymptomatic until inflammation, perforation or haemorrhage occur.[3] Literature suggests that pre-operative diagnosis of caecal diverticulitis is often missed in paediatric patients and only recognised intra-operatively.[4] While this diagnosis is uncommon, the following case highlights the need to consider this as a potential aetiology for right lower quadrant pain in paediatric populations, especially in those of Asian descent.

CASE REPORT

A 15-year-old male of Asian descent presented to the emergency department with a three-day history of abdominal pain, initially in the periumbilical region, which localised to the right lower quadrant. The pain was described as constant and sharp in nature with no radiation elsewhere. Apart from anorexia, he did not have any other significant symptoms including vomiting, changes in bowel habits or fevers prior to presentation. He had no significant medical history and a normal developmental history. On examination, he was haemodynamically stable and afebrile. His abdomen was soft throughout with tenderness on palpation in the RIF with associated guarding and rebound tenderness. A testicular exam was unremarkable. On investigation, inflammatory markers and renal function were within normal limits and a urinalysis demonstrated the presence of trace leukocytes but no other abnormalities. An ultrasound of the abdomen was performed to corroborate

the provisional diagnosis of appendicitis. The ultrasound was reported as demonstrating a rounded rather than a tubular structure, which could be compressed to 9.7 mm and appeared to be entering the caecum with surrounding echogenic fat (Figure 1). This area was focally tender and with no free fluid visualised. There was no other tubular, blind-ended structure identified. The final impression was of a possible diverticulum arising from the caecum, however the appendix could not be confidently identified and hence, could not be excluded as the cause of this patient's symptoms.

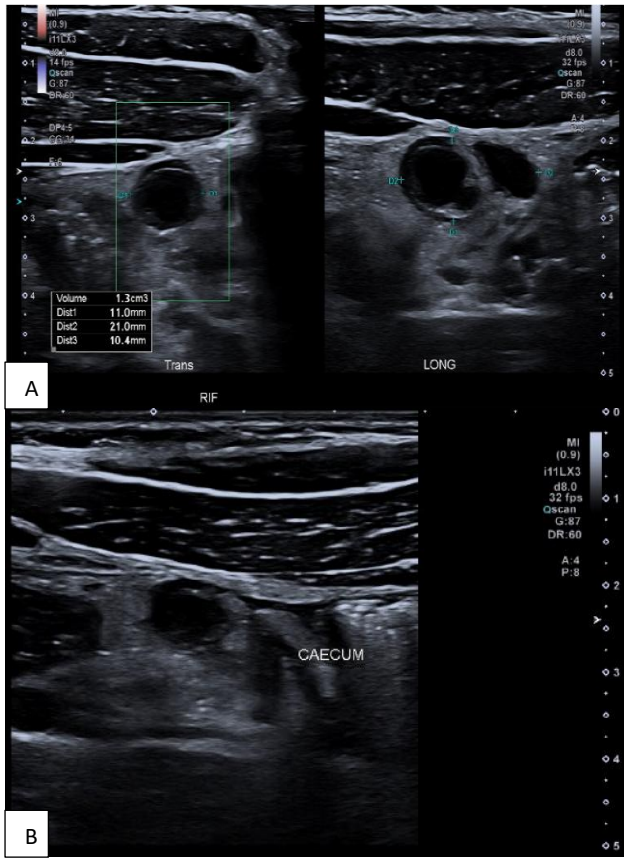

Figure 1 (A and B): Ultrasound images of the RIF demonstrating echogenic fat surrounding a rounded structure that appears to enter the caecum. The structure compresses to 9.7 mm.

Given the ongoing abdominal pain and inconclusive nature of the ultrasound imaging, the decision was made in liaison with the child and his family, to proceed with a diagnostic laparoscopy. CT imaging was considered as an alternative however, the patient's parents preferred to forgo this. A diagnostic laparoscopy was performed. There was a normal-appearing appendix however a potentially necrotic caecal diverticulum attached to the small bowel mesentery was noted. There was also an enlarged mesenteric node but no other obvious abnormalities, specifically, a Meckel's diverticulum were visualised. An intra-operative colorectal consult was obtained with the advice that further surgical intervention was not indicated at that stage, with the plan for ongoing intravenous antibiotics. He had a largely uneventful post-procedural course and was discharged on oral antibiotics with the plan for a colonoscopy six weeks post discharge.

A colonoscopy was performed, which demonstrated a single caecal diverticulum with no other diverticula elsewhere. There was a patchy area of mucosa in the terminal ileum which appeared possibly abnormal; hence biopsies were taken. There were no other pertinent findings. Histopathological examination of the biopsies was unremarkable with no acute inflammation, granulomas, dysplasia, or malignancy. He was followed up as an outpatient several weeks after his colonoscopy. He remained well and no further surgical intervention was planned at that stage.

DISCUSSION

Caecal diverticulitis is a rare phenomenon in Western populations and is often clinically indistinguishable from acute appendicitis. Literature suggests that these cases are misdiagnosed in up to three quarters of cases.[3,5,6] While this pathology is more prevalent in young people of Asian descent, pre-operative diagnosis remains uncommon.[5] This is likely multifactorial. In patients where acute appendicitis is suspected and a clinical diagnosis has been made, the decision to proceed with operative intervention and forgo imaging is not uncommon. Additionally, in paediatric populations, use of CT may also be limited due to concerns regarding radiation exposure. Furthermore, while imaging such as ultrasound and CT have high sensitivity and specificity for identifying caecal diverticulitis, interpretation can be variable especially in contexts where this diagnosis is rare and is not considered in the differential diagnosis.[5,6] Once a diagnosis of caecal diverticulitis is made, management can range from antibiotics to hemicolectomy.[5] Management is variable among surgeons with multiple factors considered including whether it is complicated or uncomplicated or whether this is the index case or a recurrent case of diverticulitis.

In uncomplicated caecal diverticulitis, particularly an index case, it is generally appropriate to conservatively manage with intravenous antibiotics. Recurrent or complicated cases are more complex and approaches to treatment are variable.[5,7] Some literature has reported diverticulectomy as a more conservative surgical approach for the management of these solitary diverticula, particularly if diagnosed intraoperatively.[7] If performed, a diverticulectomy is reserved for cases where there is a solitary diverticulum, which appears inflamed however without any abscess formation or perforation and where the caecum appears healthy. The defect is then closed in layers, with the addition of an omental patch in some instances. This procedure may be considered for recurrent episodes of caecal diverticulitis or in instances where antibiotic therapy has been ineffective. In some cases, appendicectomy is also concurrently performed even if the appendix appears normal in order to minimise

future diagnostic uncertainty, to reduce the need for future operations and given additional morbidity with concurrent appendicectomy is limited.[8]

More invasive options for management, especially in cases of complicated caecal diverticulitis, include ileocecal resection or in some cases, right hemicolectomy, however both these options are rarely used in paediatric populations.[6,8] Bowel resection may be considered in recurrent or complicated cases where there is caecal inflammation that precludes diverticulectomy and where a patient has failed antibiotic therapy.[8] Perforation with associated contamination may also necessitate ileocolic resection.[8] Other rare indications for more extensive resection in paediatric patients include the presence of complex congenital abnormalities or where multiple diverticula are present, both of which are exceedingly rare in this subgroup.

CONCLUSION

Caecal diverticulitis is a rare mimic of acute appendicitis in paediatric patients presenting with right lower quadrant pain. Despite its rarity, this pathology should be considered, particularly in those of Asian descent, as early diagnosis can avoid unnecessary operative intervention. In majority of cases, patients can be managed conservatively with intravenous antibiotics. Surgical intervention is rarely required but may be necessary in instances of complicated diverticulitis or where antibiotic therapy is ineffective.

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REFERENCES

1. Cristaudo A, Pillay P, Naidu S. Caecal diverticulitis: Presentation and management. Ann Med Surg. 2015;4(1):72-5.
2. Lee ZW, Albright EA, Brown BP, Markel TA. Congenital cecal diverticulitis in a pediatric patient. J Pediat Surg Case Rep. 2021;72:101929.
3. Karatepe O, Gulcicek OB, Adas G, Battal M, Ozdenkaya Y, Kurtulus I, et al. Cecal diverticulitis mimicking acute Appendicitis: a report of 4 cases. World J Emerg Surg. 2008;3(1):16.
4. Li X, Liu W, Zhang S, Liu H. Diagnosis and treatment experience of cecal diverticulitis in six pediatric patients. Front Pediat. 2024;12:1478296.
5. Kyziridis DS, Parpoudi SN, Antoniou ND, Konstantaras DC, Moysidis MG, Christoforidis EC, et al. Cecal diverticulitis is a challenging diagnosis: a report of 3 cases. Am J Case Rep. 2015;16:206.
6. Uhe I, Meyer J, Viviano M, Naiken S, Toso C, Ris F, Buchs NC. Caecal diverticulitis can be misdiagnosed as acute appendicitis: a systematic review of the literature. Colorectal Dis. 2021;23(10):2515-26.
7. Vallejo FA, Escoba GE, Salazar GD. Solitary cecal diverticulitis in a pediatric case: A challenging diagnosis. Turkish J Ped Surg. 2025;39(1):34-8.
8. Koshy RM, Abusabeib A, Al-Mudares S, Khairat M, Toro A, Di Carlo I. Intraoperative diagnosis of solitary cecal diverticulum not requiring surgery: is appendectomy indicated? World J Emerg Surg. 2016;11:1.

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