Acute appendicitis as a primary cause of intestinal obstruction

Sami Manthoor Alrubaye*

Abstract

Acute appendicitis is a common surgical emergency however, the diagnosis is often dismissed when it presents as acute small bowel obstruction. We report this child patient who presented with clinical and radiological features of small bowel obstruction. Laparotomy was done with removal of the obstructing agent (appendix) and the patient recovered uneventfully.

Keywords: Appendicitis; Bowel obstruction; Laparotomy; Appendectomy

*Corresponding email: samimanthoor@gmail.com
Almuqdadia General Hospital, Diala, Iraq
Received 27 July 2017, Accepted 24 October 2017, Available online 21 November 2017

Introduction

Intestinal obstruction is a common acute surgical problem that can be caused by multiple culprits. Acute appendicitis may rarely present as mechanical small bowel obstruction. Although individual case studies have been described in the literature since as early as 1901, very few literature reviews exist on the subject [1] [2].

Case presentation

A 3-year-old child was examined at the emergency department of our hospital referred from local pediatrician as a case of intestinal obstruction after 2 days of treatment in their hospital as (Acute abdomen status). Clinical, laboratorial and radiological evaluation had been performed which revealed features of acute small bowel obstruction. Apart from mild anemia (Hb10.6 gm/dl) all the laboratorial results were normal while the clinical assessment had showed mild fever (temp. 37.5 c), pulse rate (100). After rapid proper resuscitation, patient was taken to the theatre for laparotomy through lower midline incision and the findings were twisted loop of the last 15cm of terminal ileum around a band formed by acutely inflamed appendix with the greater omentum attached to its tip, detorsion was done, no resection was performed as the loop was viable and the patient recovered uneventfully apart from mild hypokalemia ileus.

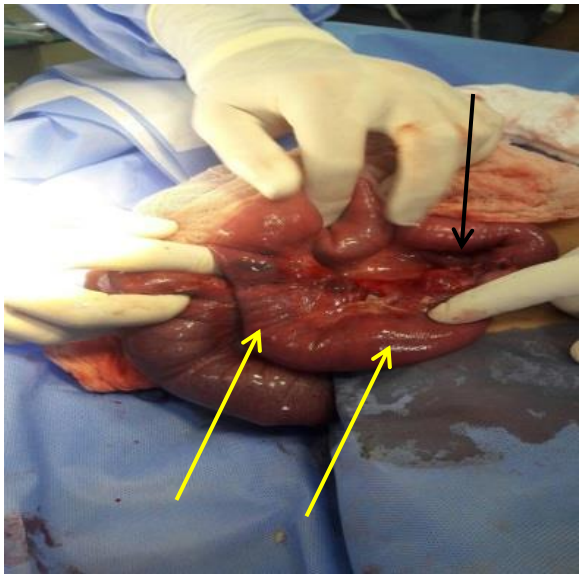

Figure 1.

Shows the appendix which was removed (black arrow) and the pressure sites (yellow arrow).

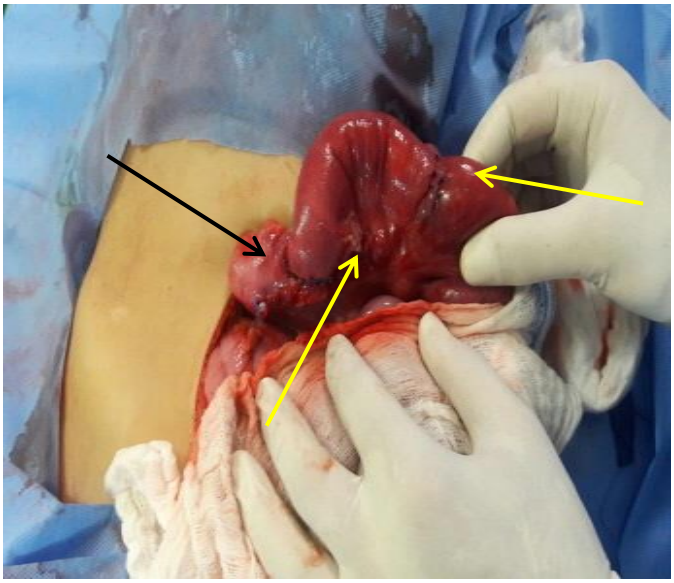

Figure 2.

Shows the appendix which was removed (black arrow) and the pressure sites (yellow arrows) which were buried.

Discussion

Acute appendicitis has been recognized as a rare cause of mechanical small bowel obstruction [1,3]. It usually occurred due to the inflammatory process around appendix which leads to adhesions and is clearly different from ileus seen in patient with perforated appendicitis. In a study including 10 cases of appendicitis with gangrene, necrosis or perforation, the most common cause of mechanical bowel obstruction was an appendix that lies across the terminal ileum and held down by adhesive bands while in some cases, mechanical obstruction was due to the migration of omentum to the right iliac fossa causing kinking of the bowel [4]. Bose *et al* [5] conveyed two cases of acute appendicitis complicated with small bowel strangulation. The cause was an inflamed appendix wrapping itself around the distal ileum resulting in strangulation and bowel resection was adopted in one of the 2 cases. Assenza *et al* [1] reported a case of small bowel obstruction and the cause was found to be due to inflammed appendix wrapped around the ileum resulting in valvulus and subsequent strangulation. The possible mechanisms for this according to them were adhesion of the tip of the appendix to the posterior peritoneum across

the terminal ileum leading to compression adherence of the inflamed tip of the appendix to the terminal ileum directly resulting in pressure or kinking of a loop of bowel, or adherence of inflammed tip of appendix to the posterior peritoneum forming a loop through which bowel herniates resulting in obstruction and/or strangulation. In our case, the inflammed tip of appendix attached to the greater omentum causing kinking of the last 15 cm of terminal ileum which ending in valvulus of that seqment. The role of abdominal computed tomography (CT)scan in patients with bowel obstruction has already been extensively described in the literature [6]. However, a conclusive diagnosis is mostly determined in surgical theatre. Harrison et al. Also highlights the importance of having high index of suspicion for appendicitis as a cause of small bowel obstruction when associated raised inflammatory markers [7].

Conclusion

Although it is a rare cause of small bowel obstruction, acute appendicitis should be strongly considered in the differential diagnosis.

References

1. Assenza M, Ricci G, Bartolucci P, Modini C. Mechanical small bowel obstruction due to an inflamed appendix wrapping around the last loop of ileum. G. Chir 2005;26:261–266.
2. O'Donnell ME, Sharif MA, O'Kane A, Spence RAJ. Small bowel obstruction secondary to an appendiceal tourniquet. Ir. J. Med. Sci 2009;178:101–105.
3. Gupta S, Vaidya MP. Mechanical small bowel obstruction cause by acute appendicitis. Am. Surg 1969;35:670–674.
4. Harris S, Rudolf L. Mechanical small bowel obstruction due to acute appendicitis. Annals of Surgery 1966;164(1):157–161.
5. Bose S, Talwar B. Appendicitis causing acute intestinal obstruction with strangulation. The Australian and New Zealand Journal of Surgery 1973;43(1):56–57.
6. Balthazar EJ, Liebeskind ME, Macari M. Intestinal ischemia in patients in whom small bowel obstruction is suspected: evaluation of accuracy, limitations, and clinical implications of CT in diagnosis. Radiology 1997;205:519–522.
7. Harrison S, Mahawar K, Brown D, Boobis L, Small P. Acute appendicitis presenting as small bowel obstruction: two case reports. Cases J 2009;2:9106.