

## CASE REPORT

# Appendicitis as a cause of small bowel obstruction in pediatric age group

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## ABSTRACT

*Intestinal obstruction is a common surgical emergency in children caused by varied conditions. Although bowel paralysis accompanying acute appendicitis is well known, obstruction of large or small intestine caused by appendicitis is extremely rare with very few cases reported in literature. The diagnosis of such a condition is possible only on table. Every emergency surgeon needs to be aware of such a possibility. We report a case of a 6-year-old male presenting with classical features of intestinal obstruction for 4 days with no history and clinical finding suggestive of an episode of appendicitis. On laparotomy small bowel obstruction was seen and appendix was found to be the cause. We reviewed literature to find similar cases reported in the past.*

**Keywords:** Right iliac fossa tenderness; intestinal obstruction; laparotomy.

## INTRODUCTION

Intestinal obstruction is one of the common causes of acute abdomen in children. Although appendicitis causing intestinal obstruction is a rare cause with only a few reported cases in literature, among the cases there has been only one report of this occurrence in pediatric age group.<sup>1</sup> Mechanical obstruction, with or without strangulation, can result from loops of the small bowel becoming entangled and pinched by the inflamed appendix, or adhesion of the distal end of the appendix to loops of the small bowel, caecum, or retroperitoneum.<sup>2</sup> Here we report a case where the inflamed appendix caused a band like structure resulting in intestinal obstruction.

## Case History

A 6-year-old male child presented with abdominal pain with vomiting for 4 days with constipation for 3 days. Abdomen was distended with tenderness elicited on the palpation of lower abdomen. Per rectal examination was done to rule out

fecal impaction or mass and was found to be normal.

X-ray plain picture erect abdomen showed dilated bowel loops suggestive of bowel obstruction. A diagnosis of mechanical intestinal obstruction of unknown etiology was made and was scheduled for emergency laparotomy. The abdomen was then opened by an upper right transverse incision. Dilated bowel loops were identified and inflamed appendix was seen lying over the distal ileum and tip was attached to the ileocecal mesentery resulting in a band like structure causing obstruction. Band was released followed by appendectomy. Post-



**Figure 1** On table picture showing the appendix acting as an obstruction band over distal ileum

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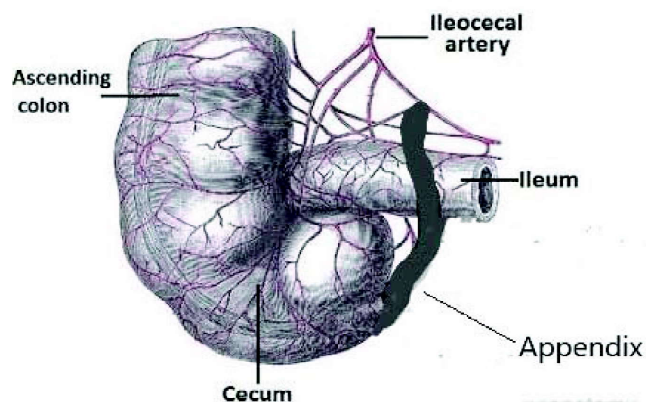
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operative period was uneventful and patient was discharged on the seventh post-operative day. The patient is on follow-up.



**Figure 2** Inflamed appendix is seen lying over the terminal ileum and the tip attached to the ileocecal mesentery resulting in a band like structure causing obstruction

## DISCUSSION

Appendicitis causing intestinal obstruction was described as early as 1901, when Lucius Hotchkiss documented three successful surgeries for intestinal obstruction due to appendicitis.<sup>3</sup> In 1909, Forbes Hawks divided them into mechanical, septic and a combination of the two.<sup>4</sup> Our case was a variable of mechanical without strangulation like the case reported by Naumov in 1936.<sup>4</sup>

Clinically these patients can be classified into two types

1. Predominant features of appendicitis with some evidence of intestinal obstruction. In this group of patients, intestinal obstruction occurs during the phase of active appendicitis.
2. Patients with Acute intestinal obstruction, on laparotomy found to have appendicitis as the cause. In this group, there may or may not be a history of appendicitis. Intestinal obstruction dominates the clinical picture and may completely obscure the underlying appendicular disease. Such cases are

managed accordingly by exploratory laparotomy as in our case and previously documented by Laxminarayan Bhandari.<sup>2</sup>

## CONCLUSION

Intestinal obstruction due to appendicitis is of four types. Clinically and radiologically it may not be possible to differentiate these types. It may be predominantly appendicitis or predominantly intestinal obstruction. In the second group it is important to rule out appendicitis by careful re-evaluation. We found that mechanical bowel obstruction in direct connection with appendiceal inflammation is an extremely rare, but potentially life-threatening complication. A conclusive diagnosis typically has to wait until visualization during the surgical intervention. As such a case presenting with acute intestinal obstruction of unknown etiology, we need to consider appendicitis as a probable cause.

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