

# **A Case Report: Intestinal Obstruction due to Acute Appendicitis**

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## **Abstract**

Appendicitis has always been the most common surgical case in our daily practices; however, appendicitis presenting mechanical intestinal obstruction is quite rare and it has never been reported in Immanuel Hospital. In this report we present a young man who was admitted with small bowel obstruction and was successfully treated with laparotomy appendectomy, which made a full recovery.

**Keywords:** appendicitis, bowel obstruction, laparotomy, appendectomy

## **Laporan Kasus: Obstruksi Usus Akibat Appendicitis Akut**

### **Abstrak**

*Appendicitis adalah kasus operasi yang paling umum dilakukan dalam praktek sehari-hari, namun appendicitis dengan obstruksi usus mekanis jarang ditemukan dan belum pernah dilaporkan di Rumah Sakit Immanuel. Pada laporan ini ditampilkan seorang pria muda yang mengalami obstruksi usus kecil dan sukses ditangani dengan laparotomy appendectomy yang memberikan penyembuhan sempurna.*

**Kata kunci:** *appendicitis, obstruksi usus, laparotomy, appendectomy*

### **Introduction**

Acute appendicitis is still the most common surgical problem, presenting an acute pain at the right lower quadrant of the abdomen. Nevertheless, we will never assume it as a colicky, dull pain, with a distended bowel and also vomiting and absence of motion, which are all signs of bowel obstruction. The clinical features of small bowel obstruction may dominate the clinical picture and mask appendicitis which can pose a substantial diagnostic dilemma, especially in the elderly patients.

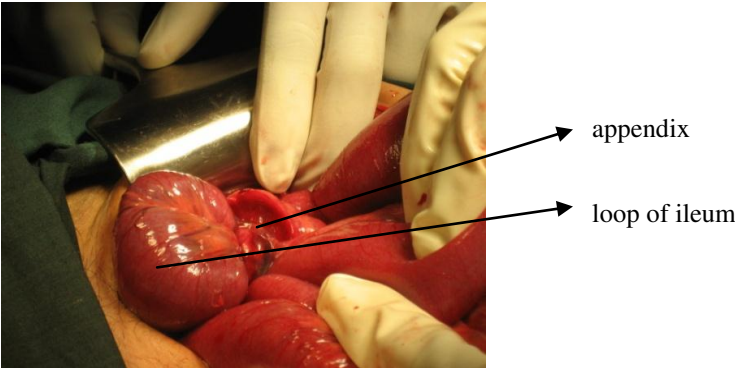
### **Case presentation**

A 28-year-old male was presented with a three-day history of abdominal pain, nausea, vomiting, and difficulty of motion. There was mild fever and cough but no history of prior abdominal surgery. On examination, he was dehydrated, tachycardic, with abdominal

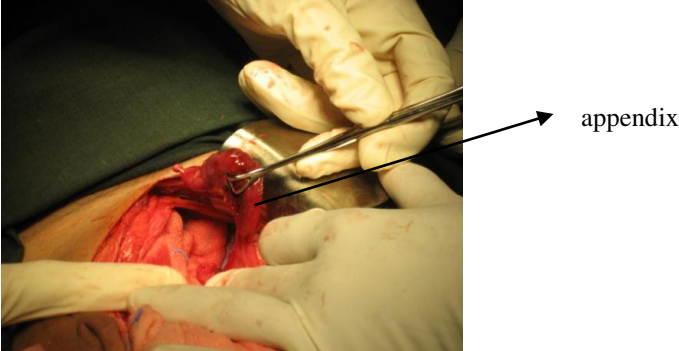
distension and poorly localized abdominal tenderness. There was random borborygmic mingling with metallic bowel sounds. His routine blood investigations revealed a raised white cell count and mild uremia of  $13.2 \times 10^9/L$  and 58 mg/dL respectively. His creatinine level was 1.3 mg/dL, and his urine output was only 100 mL in three hours. Abdominal X-rays showed multiple dilated loops of small bowels with air-fluid stepladder formation (Figure 1). Thorax X-ray revealed no signs of pulmonary tuberculosis or subdiaphragmatic free air. Since he was dehydrated and prior diagnosis was mechanical obstruction due to abdominal tuberculosis, he was resuscitated overnight and was operated the next day since his abdominal distention worsened despite decompression by nasogastric tube and urine catheter insertion.



**Figure 1.** Stepladder Appearance of Small Bowel on the Upper Left Abdomen



**Figure 2.** Intraoperative Finding of a Band-Like Adhesion Forming a Loop Of Ileum



**Figure 3.** The Band was Originated from the Inflamed and Gangrenous Appendicitis

We found that the source of the bowel obstruction was the inflamed and gangrenous appendicitis causing it to form some kind of band that strangulated a loop of terminal ileum (Figure 2, 3). It was extremely firm that it must be cut and ligated just to release the ileum. We then performed appendectomy and peritoneal lavage with warm saline. Postoperatively the patient recovered completely, and diagnosis of appendicitis was confirmed on histopathology result.

### Discussion

Appendicitis has been recognized as a rare cause of mechanical small bowel obstruction which usually results from adhesion due to periappendicular inflammation. The more reasonable term may supposedly be small bowel *strangulation*. This particular presentation is not commonly recognized and may result in delays in diagnosis and management.

In a series of ten cases analyzed by Harris *et al* (1966), all of the patients had appendicitis with gangrene, necrosis or perforation, whereas the most common cause of the mechanical bowel strangulation was an appendix that lay across the terminal ileum and was held down by adhesive bands. Some of the cases were caused by the adhesion of the migrating omentum to the right iliac fossa leading to kinking of the bowel.<sup>1</sup>

Although the management of the patient was as simple as appendectomy, the main problem was delayed diagnosis, especially in elderly patients, with potential for increased morbidity and mortality. We always think about malignancy rather than appendicitis as the cause of obstruction. It is more common in Indonesia to find a patient with tuberculosis appendicitis presenting

mechanical bowel obstruction; however, it is rarely the cause of the obstruction and is frequently an accompanying disease of abdominal tuberculosis. In most of the cases, appendicitis tuberculosis is left alone and only peritoneal or lymph node biopsy and release of the bowel obstruction are performed due to the risk of bowel leakage and fistula, should appendectomy was done.

There are several reports from Bose *et al.*, Assenza *et al.*, Zissen *et al.*, Kareem *et al.*, Mourad *et al.*, each explaining the condition of appendicitis and its pathogenesis toward bowel obstruction. Nevertheless, appendicitis is very rarely considered in the differential diagnosis of the etiology of small bowel obstruction.<sup>2-6</sup> Harrison *et al.* highlighted the importance of having a high index of suspicion for appendicitis when reviewing patients presenting small bowel obstruction with the presence of raised inflammatory markers.<sup>7</sup>

### Conclusion

Appendicitis should be considered the cause of small bowel obstruction in young adults with no suspicion for abdominal tuberculosis, or in elderly people with no suspicion for malignancy.

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