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Appendicular Perforation Presenting as Small Bowel Obstruction: A Unusual Presentation.

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ABSTRACT

Acute appendicitis is a common surgical problem however the diagnosis is often overlooked when it presents as a small bowel obstruction. In this report we present two cases of elderly patients who presented with small bowel obstruction and raised inflammatory markers. Both patients were successfully treated with a laparotomy, adhesiolysis and appendicectomy and went on to make a good recovery.

Keywords: appendicectomy, bowel obstruction, appendicitis.

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INTRODUCTION

Acute appendicitis may rarely present as small bowel obstruction [1]. The small bowel obstruction in such cases may be mechanical or due to ileus [2]. The clinical features of small bowel obstruction may dominate the clinical picture and mask appendicitis. This can pose a considerable diagnostic dilemma, especially in the elderly patients. We present here two cases of acute appendicitis presenting clinically as mechanical small bowel obstruction.

CASE REPORT

A 27 year old young male presented with history of abdomen distension for 3 days ,Constipation for 3 days,Fever since 1 day,Vomiting since 1 day. Initially the patient complaints of constipation followed by abdomen distension in the early morning hours. He felt nauseated and vomited 3 to 4 episode on the 1st day of abdomen distension which was 5-10ml of food particals. Fever on the 1st day which was low grade. His bladder habit normal. Normal appetite No past significant medical /surgical history.

During the initial examination,patient appears comfortable. His vitals signs were: Afebrile, 64 beats/min,120/70mmhg,20 breaths/min,100% RA. No pallor/no pedal edema/no icterus. The abdominal examination revealed mild distension,no tenderness without guarding or rigid,bs +. Per Rectal Examination-no ext/int mass,Normal Sphinter tone,Soft stools,No altered feces colour. Dilated small bowel loops with air-fluid level noted in the Lt hypochondrial region.

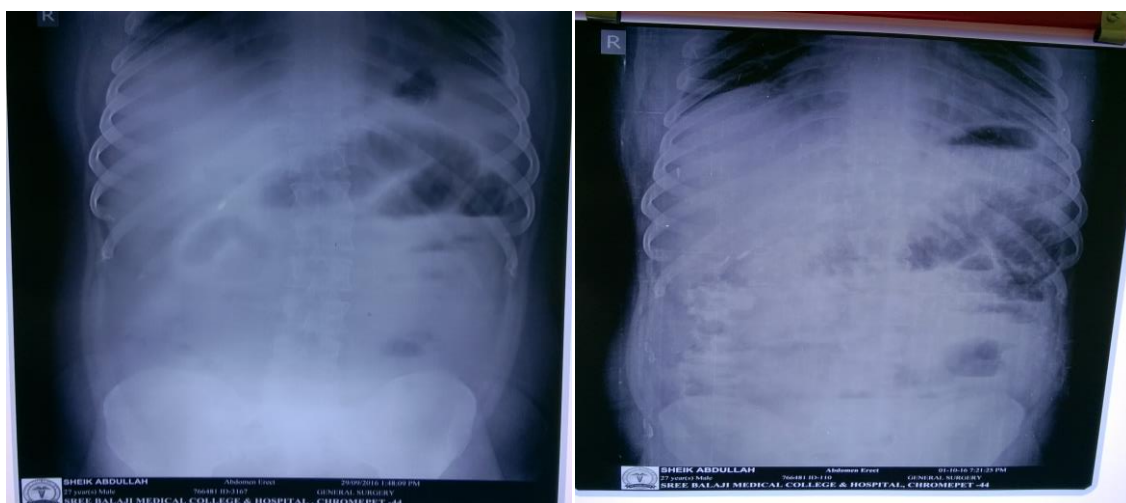
Ultrasound abdomen shows - 1.0cm calculus noted within the gall bladder.

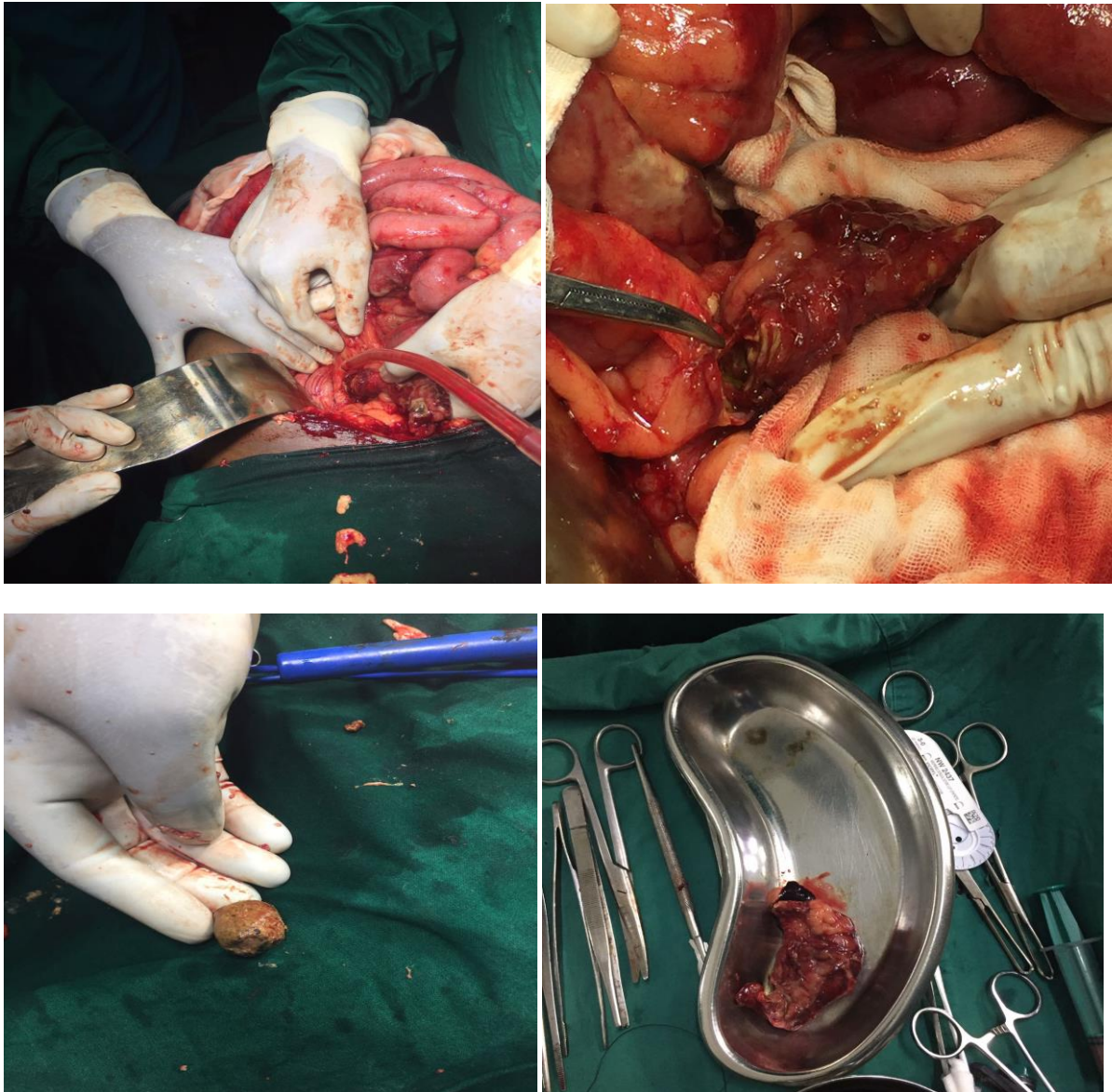
CECT-ABDOMEN Shows - Proximal Jejunal Loops Appears Dilated With Air-Fluid Levels.Distal Jejunal Loops Appears Inflammed And Adherent To Each Other. Subcentimeteric Lymph Nodes Noted. Minimal Free Fluid Noted Within The Pelvis. Contracted Gall Bladder With Multiple Calculi.**To Consider Small Bowel Obstruction**

Secondary To Inflammatory Pathology.

Plan- Diagnostic Laparoscopy And Proceed - Interbowel Adhesions Present. Converted To Laparotomy - Small bowel dilated ,Small bowel adherent to the sigmoid colon , Around 50ml pus drained , Perforated appendix was adherent to the mesentery of the sigmoid colon ,Fecolith was present ,Adhesions released,appendix base ligated,appendectomy done.

Caecum found to be perforated at IC Jn , Segmented ileum was traced 30cm from IC Jn,enterectomy,bowel decompression done , **LOOP ILEOSTOMY DONE**, peritoneal lavage given and abdomen closed in layers. Post operative period was uneventful and patient was discharged with ileostomy and under follow up planned for ileostomy closure after 6 weeks.





DISCUSSION

Acute appendicitis has been recognized as a rare cause of mechanical small bowel obstruction [1,3]. It usually results from adhesion due to periappendicular inflammation and is obviously different from ileus seen in patients with perforated appendicitis presenting with generalized or localized peritonitis. Despite previous reports, this presentation of acute appendicitis is not widely recognized and can result in delays in diagnosis and management. Harris *et al* [2] (1966) first brought to wider notice the presentation of acute appendicitis as small bowel obstruction and pointed out that very often the differentiation between adynamic ileus and true mechanical obstruction is difficult to elicit clinically. In a series of ten cases analysed by Harris *et al*, all of them had appendicitis with gangrene, necrosis or perforation and the most common cause of the mechanical bowel obstruction was an appendix that lay across the terminal ileum and held down by adhesive bands. In some cases mechanical obstruction was due to the migration of omentum to the right iliac fossa causing kinking of the bowel.

Bose *et al* [4] reported two cases of acute appendicitis presenting with strangulated small bowel. In both cases there was an inflamed appendix wrapping itself around the distal ileum resulting in strangulation of the bowel. Both of these cases were treated with retrograde appendectomy, one of them requiring a bowel resection as well.

Assenza *et al* [1] reported a case where a patient presented with small bowel obstruction which was found to be due to an inflamed appendix wrapping around the ileum resulting in volvulus and subsequent strangulation. The possible mechanisms for this according to them were adherence of the inflamed tip of the appendix to the posterior peritoneum across the terminal ileum resulting in compression; adherence of the inflamed tip of the appendix to the terminal ileum directly resulting in compression or kinking of a bowel loop; adherence of the inflamed tip of the appendix to the posterior peritoneum forming a loop through which bowel herniates resulting in obstruction and/or strangulation; adherence of the inflamed appendix to the mesentery near the ileocolic artery resulting in subsequent thrombosis and gangrene of the terminal ileum.

However, variations of the above mechanisms have been reported. Zissin *et al* [5] report an unusual case of appendicitis presenting with small bowel obstruction in a patient with intestinal malrotation which was diagnosed pre-operatively by careful analysis of the CT scan, highlighting its use in the diagnosis of bowel obstruction due to appendicitis. Kareem *et al* [6] presented a case of a patient presenting with a six month history of recurrent partial small bowel obstruction with coexisting appendix mass. The diagnosis in this case was only made on surgical exploration and subsequent histopathological examination which revealed findings consistent with an appendicular perforation and non specific ulceration of the surrounding bowel.

Appendicitis can be caused by an appendiceal mucocele and Mourad *et al* [7] report such a case presenting as small bowel obstruction. In their report, a preoperative diagnosis was made by CT scan which revealed a large cystic appendiceal lesion impinging on the caecum. Pitiakoudis *et al* [8] report a case where the patient presented with peritonism and with evidence of small bowel obstruction. Subsequent laparotomy revealed the presence of a ruptured appendiceal mucocele which was successfully treated with an appendicectomy and washout. Histopathological examination in this case indicated a benign ruptured mucocele and pseudomyxoma peritonei.

The presentation of acute appendicitis in the elderly can be atypical which can result in a delayed diagnosis with potential for increased morbidity and mortality [9]. Presentation with mechanical bowel obstruction may pose further challenges. In both our patients, diagnosis was clinically considered and established on CT scan. Despite the numerous mechanisms for acute appendicitis to result in mechanical small bowel obstruction, it is very rarely considered in the differential diagnosis. With the above mentioned reports and our own experience, we would like to highlight the importance of having a high index of suspicion for appendicitis when reviewing patients presenting with small bowel obstruction in the presence of raised inflammatory markers.

CONCLUSION

Acute appendicitis should be considered in the differential diagnosis of patients with small bowel obstruction presenting with raised inflammatory markers to avoid delays in management.

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