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Urinary Retention a Rare Cause of Bowel Obstruction: A Case Report

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Abstract **Case Report**

A 60-year-old man presented to the emergency department with diffuse abdominal pain without passing stool or gas since 4 days. The diagnostic work-up included a plain abdominal radiograph and an abdominal computed tomography scan that revealed small-bowel obstruction with a rare cause. The obstruction was secondary to external compression by a distended bladder. The immediate management was insertion of an indwelling urinary catheter. We suggested re-evaluation, and after several hours the symptoms resolved. Although rare, pressure from the distended bladder due to urinary retention can cause complete bowel obstruction.

Keywords: Intestinal obstruction, Urinary retention, Computed tomography.

INTRODUCTION

Bowel obstruction occurs when the normal flow of intraluminal contents is interrupted. Mechanical bowel obstruction is rare and mostly observed in geriatric males, caused by intraluminal or extraluminal mechanical compression. We report a case of mechanical intestinal obstruction due to clinically undiagnosed urinary retention.

CASE REPORT

We present a case of a 60-year-old man presented to the emergency department with 4 days of diffuse abdominal pain and constipation, which increased on the day of admission and included non-stool or gas passing. The relevant physical examination revealed a distended abdomen, decreased bowel sounds, diffuse sensitivity on palpation of the abdomen, and empty rectal ampulla. Plain abdominal film (Fig. 1) showing non-specific small bowel dilatation with no significant colonic distension, and was followed by an abdominal contrast enhanced computed tomography (CT) (Figs. 2 3 and 4). Axial contrast enhanced CT image (Fig.2) of the mid-abdomen. This shows dilated loops of proximal small bowel and collapsed colon indicating distal small bowel obstruction. Axial et sagittal CT images (Fig 3 and 4) in the same patient. This shows extrinsic compression of stretched small bowel loops by a distended urinary bladder. The CT scan images suggested that the distended bladder contributed to the mechanism of obstruction. Subsequent urinary catheterization obtained a residual volume of 1600ml with complete resolution of bowel symptoms.

Fig. 1: Plain abdominal film

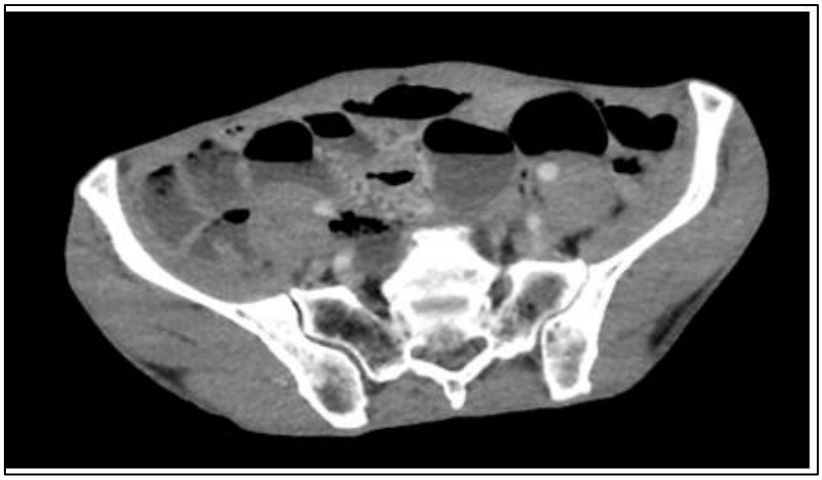

Fig. 2: Axial section of enhanced CT scan of the abdomen

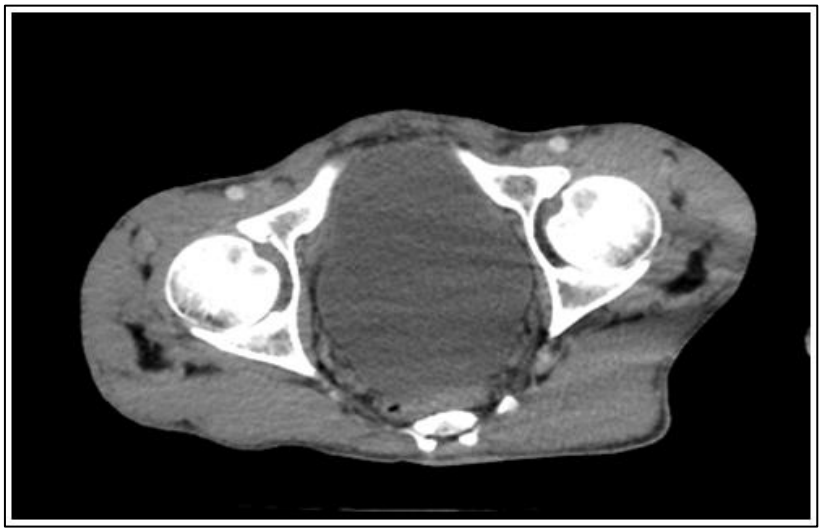

Fig. 3: Axial section of enhanced CT scan of the abdomen

Fig. 4: Sagittal section of enhanced CT scan of the abdomen

DISCUSSION

A bowel obstruction can either be a mechanical or functional obstruction of the small or large intestines. The obstruction occurs when the lumen of the bowel becomes either partially or completely blocked. Obstruction frequently causes abdominal pain, nausea, vomiting, constipation-to-obstipation, and distention. Extrinsic obstruction secondary to distension of the urinary bladder is rare, with only scarce reported cases in the past 25 years [1].

A diagnosis of intestinal obstruction is primarily a clinical one and is supplemented by radiological investigations [2]. Initial radiological diagnosis is often based on the plain abdominal film. Characteristic features of intestinal obstruction on X-ray are distended small or large bowel loops with collapsed bowel distal to the presumed site of obstruction [3]. Further imaging is often performed to exclude pseudo-obstruction, to find the cause or localise the site of obstruction. Water soluble enema is frequently used and was shown to be superior to the plain abdominal film [4]. Contrast enemas have yielded sensitivities and specificities of 96% and 98%, respectively when diagnosing colonic obstruction [5]. More recently, CT has been used with increasing frequency in this setting, particularly when small bowel obstruction is suspected [6]. In cases of suspected intestinal obstruction, the use of CT is well established in confirming the level, cause and severity of obstruction and the presence of closed loop obstruction or strangulation [7]. CT is reported to have sensitivity and specificity of 100% in diagnosing small bowel obstruction [8], and has been proposed as the investigation of choice to guide surgical management of this condition [9].

Acute or acute-on-chronic urinary retention is a common surgical presentation particularly in elderly men. It is primarily a clinical diagnosis and presents with lower abdominal discomfort, inability to pass urine and a palpable mass arising from the pelvis that is dull to percussion [10]. Rarely, clinical diagnosis may become difficult due to a co-existent distended abdomen. Acute urinary retention in the post-operative period is a common occurrence. A decreased sensation of bladder fullness can be caused by opiates given during anaesthesia and this can lead to overdistension of the bladder [11]. Acute urinary retention can occur secondary to many acute abdominal conditions such as diverticulitis, perforated or ischaemic bowel or abdominal aortic aneurysm [10]. An episode of acute urinary retention associated with elevated blood urea levels can cause intestinal pseudo-obstruction and ileus [2]. However, urinary retention is a rarely reported cause of mechanical intestinal obstruction. This does not feature as a cause in a review looking at unusual presentations of male acute urinary retention, between 1966 and 1998 [11]. Although both acute urinary retention and intestinal obstruction are commonly encountered clinical problems, a cause–effect relationship has rarely been reported [12–15]. Prostatic pathology in elderly males has been cited as a contributing factor [12, 13]. Prolonged use of tricyclic antidepressants in middle age has also been linked to a case of acute urinary retention resulting in mechanical intestinal obstruction [15]. In all these cases, urinary retention was diagnosed after clinical and radiological evidence of bowel obstruction and further contrast enema imaging.

The immediate relief of bowel symptoms following urinary bladder decompression proves the cause–effect relationship in the two cases reported.

CONCLUSIONS

Acute urinary retention is a rare causal or aggravating factor for bowel obstruction by extrinsic intestinal compression. In these cases, the diagnosis may be obscured by the degree of abdominal distension and radiological investigations such as plain abdominal film and CT are instrumental in aiding diagnosis.

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