



ORIGINAL RESEARCH PAPER

General Surgery

A RARE CASE OF MULTIPLE CAECAL PERFORATION DUE TO CLOSED LOOP OBSTRUCTION IN A CASE OF ADENOCARCINOMA OF DESCENDING COLON

KEY WORDS: Caecal Perforation, Closed Loop Obstruction, Carcinoma Colon

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ABSTRACT
 In cases of mechanical large bowel obstruction, the possibility of malignancy must be taken into consideration and the progression of bowel obstruction, particularly when the ileocecal valve is competent, may result in excessive dilatation of the cecum, progression to bowel perforation, generating faecal peritonitis and considerably increasing the risk of morbidity and mortality in such cases. We had a case, Mr. Ganesan 66yrs/ Male, was admitted to the general surgery emergency department with complaints of constipation for two weeks associated with abdominal pain and abdominal distension for four days. Abdomen is grossly distended with diffuse tenderness. Hyper-tympanic on percussion with obliterated liver dullness and absent bowel sounds. CECT abdomen and pelvis: Irregular wall thickening noted in the descending colon for 7cms length. Cecum dilated upto 12cms. Pneumoperitoneum seen. Intra operatively - Grossly distended caecum, multiple caecal perforation with descending colon growth noted. In view of peritonitis, subtotal colectomy done with end ileostomy. So, every surgeon must have the knowledge of the rare pathology, closed loop obstruction with caecal perforation can present in emergency room with peritonitis and should be treated promptly.

INTRODUCTION:

Bowel obstruction is one of the major causes of general surgery emergencies. It can be classified according to the degree (complete or incomplete), clinical course (acute or chronic) or nature (mechanical, vascular or functional) of the obstruction⁽¹⁾. The etiology of bowel obstruction vary with the part of the intestinal tract that is affected. In cases of mechanical obstruction, the possibility of malignancy must be taken into consideration; therefore attention should be paid to the associated wasting symptoms such as weight loss, anorexia and weakness⁽²⁾⁽³⁾. The progression of bowel obstruction, particularly when the ileocecal valve is competent, may result in excessive dilatation of the cecum, which corresponds to the region of the colon with the maximum diameter, greater wall tension, and where the right veins are longest. The condition makes the cecum dependent on parietal infusions, and regions of fragility appear due to the precariousness of vascular anastomosis⁽⁴⁾. This hastens progression to bowel perforation, generating faecal peritonitis and considerably increasing the risk of morbidity and mortality in such cases⁽⁶⁾.

CASE REPORT:

Mr. Ganesan 66yrs/ Male, was admitted to the general surgery emergency department with complaints of constipation for two weeks associated with abdominal pain and abdominal distension for four days.

The patient reported no comorbidities and no prior surgeries.

Physical examination shows patient is conscious, oriented and afebrile. He is not pale or icteric, no generalised lymphadenopathy. PR-106/min, BP-140/80mmHg. Abdomen is grossly distended with diffuse tenderness. Hyper-tympanic on percussion with obliterated liver dullness and absent bowel sounds. Per rectal examination shows no faecal staining and no palpable growth. No remarkable alterations were found in any of the other systems.

Blood samples were collected for laboratory tests. White blood cell count was 15,400/mm³ with 9% bands; hematocrit 38%; glucose 88 mg/dl; urea 26 mg/dl; creatinine 0.8 mg/dl, sodium 139 mEq/l; and potassium 4.2 mmol/l. Pancreas and liver function tests were all normal.

CECT abdomen and pelvis: Irregular wall thickening noted in the descending colon for 7cms length with luminal narrowing about 12cms from the splenic flexure with dilated ascending and transverse colon. Cecum dilated upto 12cms. Pneumoperitoneum seen.

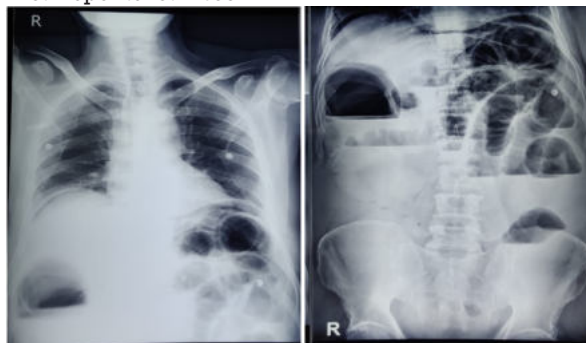


Fig. 1: Plain X-ray of chest and abdomen – Showing Air under diaphragm and multiple air fluid levels.



Fig. 2: Computed tomography image showing the cecum dilated to 12 cms.

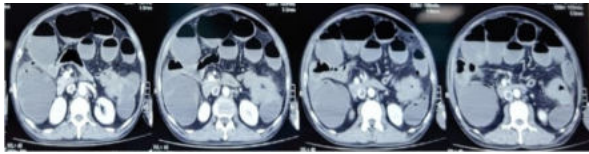


Fig.3: Computed tomography image showing descending colon growth causing complete occlusion of the lumen and proximal bowel dilatation.

INTRAOPERATIVE FINDING:

- About 500ml of contaminated peritoneal fluid drained.
- Grossly distended caecum with multiple caecal perforation.
- Growth involving the descending colon noted about 10cms from splenic flexure for 10cms distally involving the Gerotas fascia of left kidney growth.
- Solid organs and small bowel appears normal.
- **Procedure done:** Subtotal Colectomy with Hartmann's pouch with end ileostomy.
- **Histopathology of specimen:** Moderately differentiated adenocarcinoma with perineural and lymphovascular invasion present.

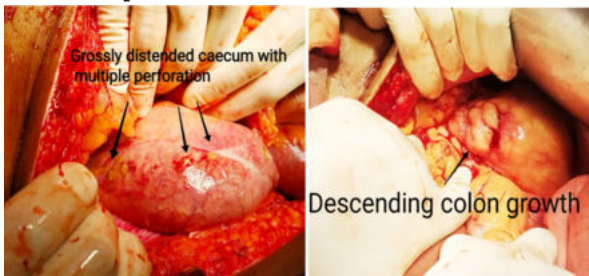


Fig.4- Intraoperative images showing multiple caecum perforation and descending colon growth with serosa breach.

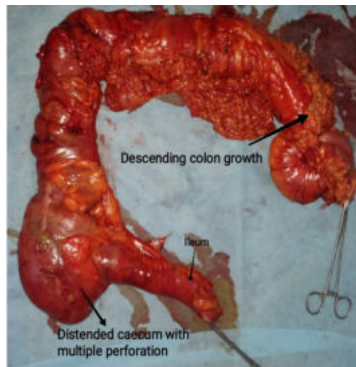


Fig.5- Surgical specimen following subtotal colectomy.

DISCUSSION:

As per the data established by the World Health Organization (WHO), colorectal cancer is the third leading cause of cancer among men worldwide and the second cause among women. It is the most common form of cancer of the gastrointestinal tract in both the sexes. It accounts for 8.5% of all deaths from cancer, with the number of deaths being higher in less developed countries.

Colorectal cancer is one of the most common forms of cancer in the elderly. Perforation of the cecum occurs in only around 3–8% of cases⁽⁶⁾. This can be explained by the fact that patients with colorectal cancer present with wasting syndrome before the bowel lumen becomes completely obstructed.

Life expectancy in cases of colorectal cancer is five years in 65% of cases. It decreases as the stage of the disease increases. At stage I, 95% of patients have a life expectancy of around 5 years, 60% of patients with stage III of the disease and 10% of patients with stage IV colorectal cancer⁽⁷⁾.

For patients with descending colon obstruction of malignant origin, with stable vitals we can proceed with left hemicolectomy / segmental colectomy with anastomosis of the cut ends. In case of multiple caecal perforation due to closed loop obstruction, better we proceed with subtotal/ total colectomy with end ileostomy in view of peritonitis. Adjuvant chemotherapy to be started based on histopathology of the resected specimen.

CONCLUSION:

Although rupture of the cecum associated with colorectal cancer is a rare pathology, it constitutes a surgical emergency; therefore, all surgeons should be aware of the possibility.

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