

Perforation Of Descending Colon Caused By Tumor Infiltration : A Case Report

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Abstract

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Introduction: Colorectal cancer is one of the most common cancer found in the gastrointestinal tract. This tumor is less commonly found on the descending part of colon and about 15 - 30 % can progress to obstruct the passage of the colon and invade other organs and may cause perforation which may show sign of peritonitis. The majority of perforation cases occur in patients with acute obstruction, only in a rare setting of colonic cancer cases due to penetration of the tumor mass through the intestinal wall. Clinical Presentation: A 34-year-old male came with pain on his whole abdomen area for 1 day and keeps on getting worse. On clinical examination There were sign and symptoms of peritonitis and during emergency laparotomy, we found perforation on descending colon caused by tumor infiltration and performed Left Hemicolectomy and Stoma at emergency settings.

Conclusion: Perforation of descending colon caused by tumor infiltration is a rare case, Left hemicolectomy and stoma shows good results in emergency settings.

Introduction

Colorectal cancer is one of the most common cancer found in the gastrointestinal tract. This tumor is less commonly found on the descending part of colon and about 15 - 30 % can progress to obstruct the passage of the colon and invade other organs and may cause perforation which may show signs of peritonitis.¹

Cancer development on left-sided colon can cause obstruction where the lumen of the colon is smaller than that of its counterpart on the right. The primary symptom is a change in bowel habits, but perforation could also be caused not only by bowel obstruction,² but also by penetration of the tumor.²

The majority of perforation cases occur in patients with acute obstruction, only in a rare setting of colonic cancer cases due to

penetration of the tumour mass through the intestinal wall. The emergency operation is mandatory if we find sign of peritonitis caused by bowel perforation, but performed bowel anastomosis or stoma may sometimes be a challenging decision for a surgeon.^{1,3}

Case Presentation

A 34-year-old male came with an intermittent pain with a scale of 7 out of 10 on his whole abdomen area for 1 day and keeps on getting worse. There was a pain on his right lower quadrant about 1 weeks ago. The pain was not alleviated by any medication or activity.

The patient did not mention anything about nausea, vomiting, and fever. However, the patient stated that he had been having a dark color stool without any bloodstain or feeling of blood dropping. There was no

difficulty in defecating, such as pain, constipation, diarrhea; and micturition was in normal range. On physical examination, Body Mass Index was 22.7 Kg/m², his conjunctivas were pale, and on abdominal examination showed that he had a decreased bowel sound, hypertympanic

and pain on all region of abdomen during percussion, tenderness on palpation in all region and muscular rigidity. The blood test showed that the patient had hypochromic microcytic anemia with hemoglobin content of 5.7 g/dl , leukocytosis of 15.350 / mm³, and there's also an increase in ESR.

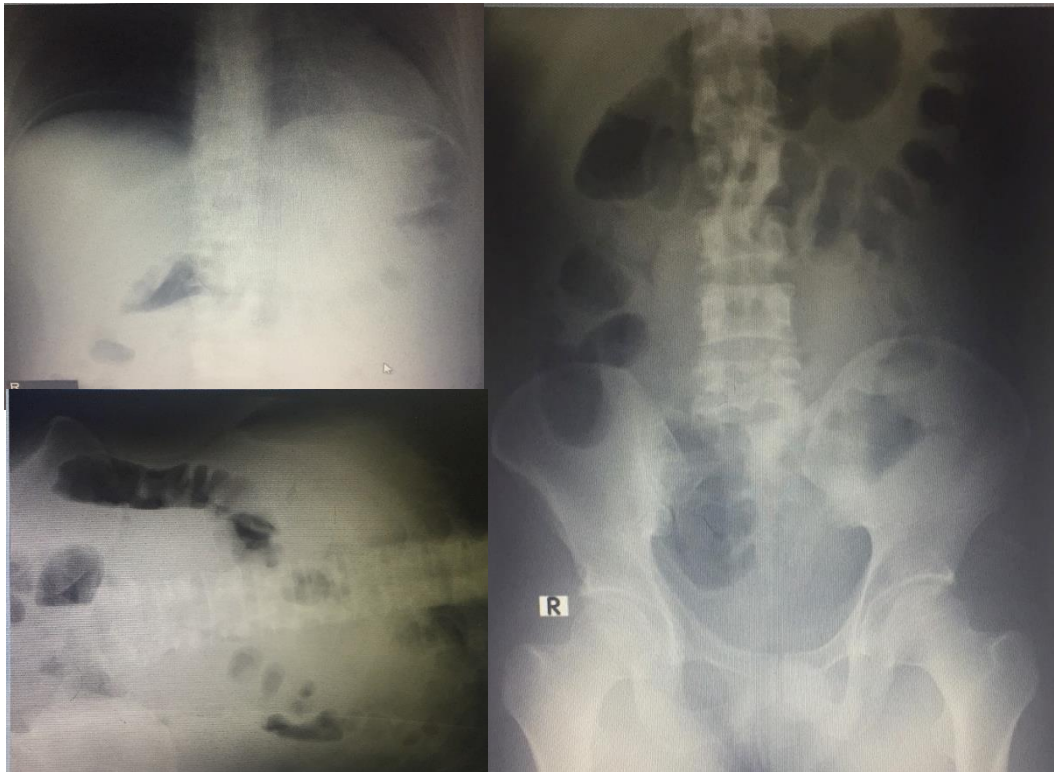


FIGURE 1. Radiographic 3 Way Abdominal X-RAY

The radiographic picture reveals free air in the right sub diaphragmatic that increases in the left lateral decubitus.. there is ground glass appearances, Intestinal air reaches distally. There is Pneumo peritoneum

During the surgery we found that the abdomen cavity was filled with a \pm 300 cc of yellow colored fluid mixed with faeces and also a mass on left descending colon with a size of \pm 10 x 9 x 6 cm, solid, define border, and attached to the lateral wall of peritoneum. A perforation with diameter 1 cm and was showed on the

antemesenterial at a tumor site with an obstructed lumen. It was the confirmed that the patient was suffering from diffuse peritonitis caused by a perforation on the left descending colon by an infiltration of a tumor (showed in figures 2 (1)), we performed left hemicolectomy with a full laparotomy, mobilized the left colon and sigmoid by dividing The lateral peritoneal reflection along the outer edge (white line of *Toldt*).

Care was taken to identify and preserve the left ureter and left gonadal vessels. The

mobilization extends from below to up around the splenic flexure along the gastrocolic ligament. The greater omentum was freed off the transverse colon, to the left side of the middle colic artery arcade, after gaining a window into the lesser sac. Mesocolic windows were opened and The left colic arteries were identified, divided and suture ligated. The inferior mesenteric vein was ligated before mobilizing the tumor to prevent tumor emboli. The left transverse and distal descending colon were divided by using a scalpel. The mesocolic defect was then closed.

There was 1 lymph node enlargement at marginal lymph node about 2 x 1 x1 cm are included on resection.

A stoma was performed with *Mikulicz* technique with the proximal of the colon placed laterally and the distal end placed medially. Histopathological findings showed a proliferating cell with

pleomorphic, hyperchromatic center, with abnormal mitotic and hyperplasia of 22 lymph node, there also serosa infiltration

hence confirming the diagnosis of mucinous adenocarcinoma; with free tumor margin in both end of large bowel.

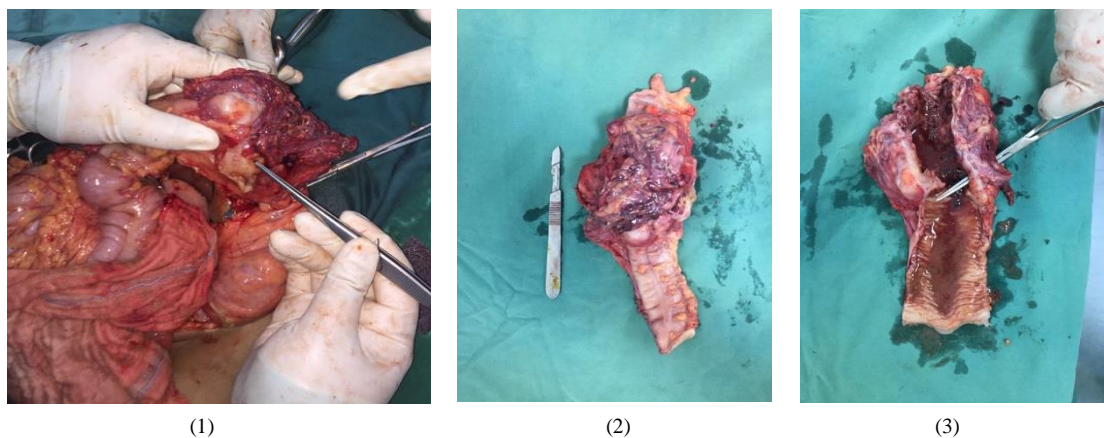


FIGURE 2. (1) location of left descending colon perforation; (2) after left hemicolectomy; (3) Perforation of tumor on left descending tumor

Post – operative management

The man remained intubated and was transferred to the HCU. Ceftriaxone and Metronidazole were added as the HCU team was concerned about contamination from large bowel perforation. After 24 hours, he was transferred to the surgical ward. Stoma looks vital, with small amount of production. The man was discharged after 5 days of hospitalization. The patient was given chemotherapy by a haematooncologist with FOLFOX (Oxliplatin – Folinic Acid – 5 Fluorouracil) about 6 times. CEA result after operation was 2.75 ng/dl (0 – 5 ng/ml). After 7 month we performed stoma closure and the patient was discharged on 6th day with good condition.

Discussion

Colorectal carcinoma is the most common malignancy to be found in the gastrointestinal tract. Every year, there are over 140.000 new cases are diagnosed in United State and more than 50.000 patients die. The incidence is equally found in both sexes³. *Banaszkiewicz et al* found the perforation most frequently occurred in patients with the cancer tumor localized in the left part of the colon (8.52%)⁴, Different from *Fujisaki et al.* where the highest number of tumors (77%) os in the sigmoid colon and rectum⁵; however, data from *Ghazi et al.* stated that there was no difference in the incidence of this complication based on the location of the

tumor⁶. Perforation of colon cancer comprises 3–10% of the initial presentation of colon cancer. This case is still rare because perforation from colorectal cancer usually occur in caecum caused by closed loop obstruction, but in this patient it was caused by infiltration of tumor on large bowel walls.¹

Based on the TNM staging of colorectal cancer by AJCC (*American Join Committee of Cancer*) this patient tumor size was T4a since the tumor penetrates through the surface of the visceral peritoneum, N0 as there are no lymph node metastasis and M0 for no distant metastasis. Hence the patient is at stage IIB.

Treatment in this patient was in accordance with the guidelines of NCCN (*National Comprehensive Cancer Network*) where tumors which causes perforation should be resected along with the intestine. In this case, left hemicolectomy was performed and consideration of stoma is due to local and systemic conditions. The principal resection should remove both the primary tumor with its lymphovascular supply. If any of the adjacent organs such as omentum is involved, then resection of it should be done. The patient was considered to be at stage IIB colorectal cancer without lymph node metastasis, so there was a significant high risk because of poorly differentiated cancer and local perforation. The adjuvant chemotherapy should be routinely given.⁸

The histopathological result of the tumor was mucinous adenocarcinoma, which, according to the study *Chen JS et al.*, although the prognosis for patients with mucinous adenocarcinoma was poorer than for those with Non mucinous adenocarcinoma, it has no significant difference because of the higher proportion of advanced stage tumors rather than the histology.⁹

Based on literatures, the mortality rate in patients with colorectal carcinoma with

intestinal perforation is higher than patient diagnosed with colorectal carcinoma in elective surgery, which ranges from 6% to 15% . In contrast, the mortality rate at the same level in studies by *Zielinski et al.* and *Abdelrazeqa et al.* *Banaszkiewicz et al* report the mortality rate was significantly higher (9.09% vs. 1.83%) in patients undergoing surgery due to perforation. In contrast, long-term survival in both groups of patients undergoing surgery was not significantly different.^{4,10,11}

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