

## A Case of Carcinoma Colon Presenting As Intestinal Malrotation

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**Abstract:** Intestinal malrotation is a congenital anomaly that generally presents in the first month of life. According to recent reports, incidence of adult malrotation is upto 1%<sup>1</sup>. Carcinoma of the colon, on the other hand, is the third most common cancer. Reports of carcinoma of the colon in adults with malrotation are rare.

**Keywords:** Intestinal malrotation, carcinoma colon.

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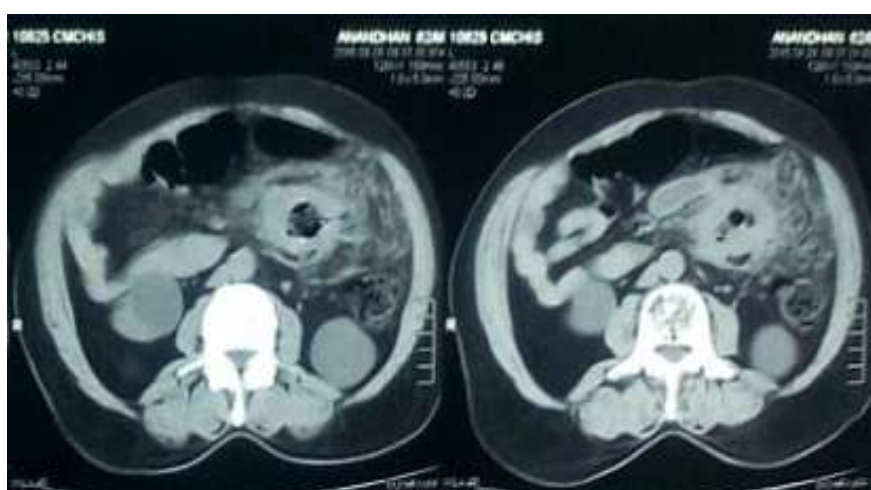
### I. Introduction

Intestinal malrotation affects all age groups and more commonly found in children. Currently there is increase in presentation of intestinal malrotation in adult population than earlier anticipated. A properly performed contrast enhanced computer tomography reveals the malformation and enables surgical treatment and relieve of symptom also in adults with a history of long-periods of abdominal complaints. In addition, and most importantly, acute obstruction with volvulus occurs in all ages and needs emergency surgery. On the other hand its association with carcinoma colon is very rare. Few such cases has been reported.

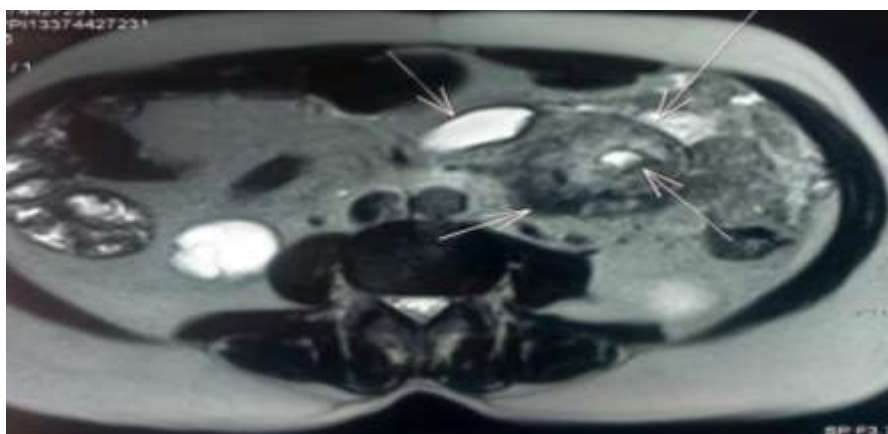
### II. Case Report

A 62 year old male patient presented with chief complaints of pain in the right upper abdomen for the past 4 months duration. The abdominal pain was insidious in onset, dull aching, intermittent pain relieved on taking analgesics. Patient also had occasional episodes of passing mucous diarrhea for 2 months duration. Patient had history of loss of weight and appetite. No history of melena/bleeding per rectum/tenesmus/fever/jaundice. Patient was not a known case of diabetic mellitus, hypertension, bronchial asthma, tuberculosis or ischemic heart disease. Patient is a smoker, smokes 4-6 cigarettes per day and not an alcoholic. On examination patient was moderately built and nourished. He was anaemic, no clubbing, pedal edema or generalized lymphadenopathy. On doing abdominal examination, abdomen was soft, no localized tenderness. There was a firm mass of size 8x6cm on palpation in the left hypochondrium. Its surface was irregular, ill defined margin and the mass did not move with respiration and became less prominent on raising the head. Mass was extending from 2cm below left subcoastal margin superiorly, 5cm above left anterior superior iliac spine inferiorly, 4cm from midline medially and 2 cm from left anterior axillary line laterally. Mass was not ballotable.

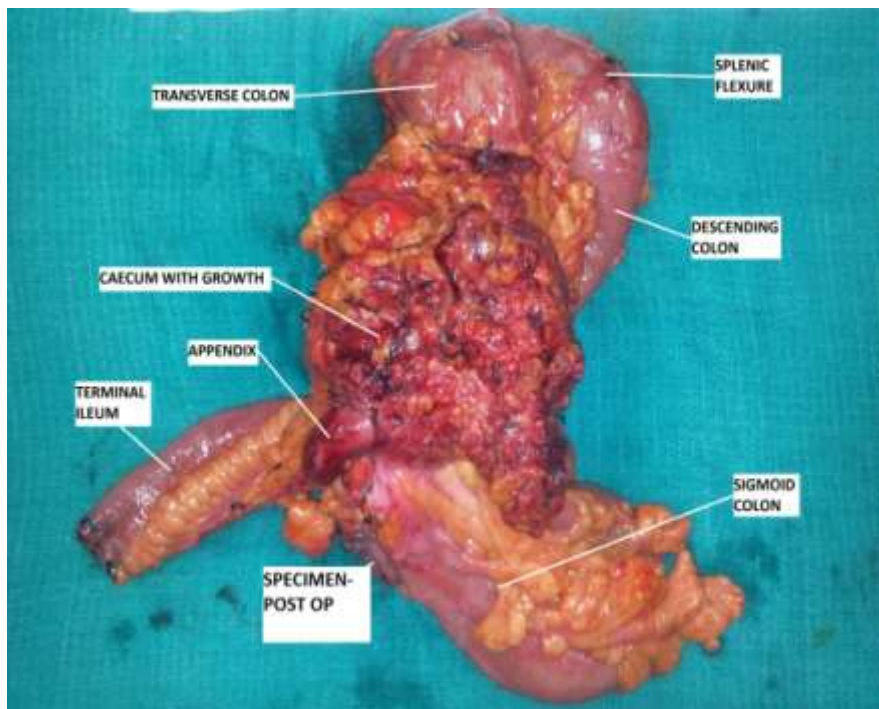
There was no hepatomegaly or free fluid. Supraclavicular fossa was free. Hernial orifices were free. External genitalia was normal. On doing per rectal examination, no growth felt, no hemorrhoids and no prostatomegaly. We proceeded with routine investigation where renal function test and liver function test were normal except for haemoglobin, which was 7.4. Tumor marker CEA was mildly elevated. [CEA- 11 ] . We transfused two units of packed cell blood and proceeded with colonoscopy. Colon was not distendable, mucosa was normal and there was not growth upto ascending colon. We did CECT abdomen and the report came put as a growth arising from the descending colon.



In view that it could probably a GIST we did CT guided biopsy from the mass which again was inconclusive. Then we proceeded with MRI abdomen which showed bowel malrotation with duodeo-jejunal flexure in midline and ileo-caecal junction in left lower abdomen and mass arising from the caecum.



After discussing with the tumour board, we proceeded with laparotomy. On opening the abdomen we found that there was bowel malrotation. Large bowel was found to be in left side with small bowel occupying the right side of the abdomen and growth arising from caecum infiltrating into sigmoid colon and normal colon was shortened about two feet. We did total colectomy with ileo-rectal anastomosis.



Post op period was uneventful. Histopathological report came out as infiltrating adenocarcinoma, well differentiated and mucinous type with two nodes showing metastatic deposits. Pathological staging of T4N1 was made.

### III. Discussion

Intestinal malrotation is a rare congenital disorder occurring in about 1 in 6,000 live births. It usually results from incomplete rotation and fixation of bowel during fetal development. Starting at gestational week five rapid differential growth of the midgut, with herniation into the proximal portion of the umbilical cord and is followed by a 270-degree counterclockwise rotation around the superior mesenteric artery (SMA) as the intestine returns to the abdomen at week ten and fixes to the retroperitoneum<sup>2</sup>. Malrotation occurs when there is an arrest in development anywhere along this process. It is classified into reversed, nonrotation or incomplete rotation. There is an abnormal 90-degree clockwise rotation of the midgut with the cecum lying to the right of and behind the SMA in reversed rotation<sup>3</sup>. Nonrotation is the complete failure of midgut rotation around the SMA, whereby the duodenojejunal segment is ultimately confined to the right and the large intestine largely to the left hemiabdomen.



Malrotation is diagnosed during the first month of life in 85–90% of cases; its presentation in adults, therefore, has traditionally been considered extremely rare. Intestinal malrotation are usually asymptomatic but can present with postprandial pain and in some case can present with obstruction<sup>4</sup>. However, with increased use of advanced imaging, the diagnosis is being made more frequently in adults. Prevalence of 0.2% malrotation was demonstrated by a study on barium enemas on 2000 adults<sup>5</sup>. Colon cancer is statistically the third most common cancer in the U.S. It is therefore surprising that colon cancer occurring in adults with malrotation has not been reported more often.

Only 7 other cases of carcinoma of the colon in patients with malrotation were located in literature<sup>6-12</sup>. Even with the proliferative use of CT imaging, the diagnosis of malrotation in adults may be missed unless a high index of suspicion exists. The imaging modality of choice is the upper gastrointestinal series, which has a sensitivity of 80%. It may demonstrate an abnormal position of the duodenojejunal junction on the right side of the abdomen better than CT<sup>13</sup>. Ultrasonography may, furthermore, exhibit the reversal of normal superior mesenteric vessel orientation. Various difficulty in diagnosing appendicitis or volvulus in malrotation cases have also been well documented<sup>6, 14</sup>. CT scans are now the most frequently used modality for the diagnosis of malrotation. However CT failed to demonstrate malrotation in 3 of 4 cases which were diagnosed using CT scans<sup>7-10</sup>.

Intestinal malrotation is a congenital anomaly that generally presents in the first month of life. Adult malrotation is considered extremely rare. Carcinoma of the colon, on the other hand, is the third most common cancer. Reports of carcinoma of the colon in adults with malrotation are so rare that we found only 7 case reports in the literature

#### **IV. Conclusion**

Carcinoma of the colon occurring in patients with adult malrotation is extremely rare with only a handful of cases reported. The preoperative recognition of malrotation would allow for better surgical planning and possible successful completion of a laparoscopic resection. CECT abdomen is useful in diagnosis of malrotation.

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