

# Intestinal Obstruction by Carcinoid Tumor in Ileum: A Case Report

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## Abstract

Intestinal obstruction is a challenge both clinically and management wise, often perturbing the surgeon. Post-operative adhesions and as a component of long standing Hernias with superadded complication of irreducibility and obstruction form the major etiological factors for intestinal obstruction. In tropical countries, intestinal tuberculosis of the ileocecal region is another important cause. Crohn's disease and small intestinal tumors are clinically very rare presentation in tropical countries like India. We report a rare case of small intestinal obstruction with a constricting stricture in ileum without any regional lymphadenopathy. After due investigations, explorative laparotomy was done, and resection with end to end anastomosis was performed. The specimen was sent for histopathological examination. Biopsy proved it to be carcinoid tumor, with local fibrosis.

**Keywords:** Contrast-enhanced computed tomography- Abdomen, Laparotomy, Resection

## INTRODUCTION

Carcinoid tumors are peculiar tumors that arise from the neuroendocrine cells in the gastrointestinal or respiratory tract. Carcinoid tumors when grow to a size of more than 1.5 cm acquire a high potential for metastasis to visceral organs like liver.<sup>1</sup> Carcinoid tumors are most commonly arise in distal small intestine namely ileum and jejunum. Though they do not grow to a big size to cause intraluminal obstruction, they usually cause obstruction by local desmoplastic reaction thus compromising the motility.<sup>2</sup> They may also be a source of intussusceptions due to their tiny size. However, carcinoid syndrome with a plethora of vasoactive substances causing flushing of skin and hypotension may occur with hepatic metastasis.<sup>3</sup>

## CASE REPORT

A 55-year-old, male patient presented with intermittent, generalized, dull and colicky abdominal pain accompanied with nausea, fever and chills for 6 months. He complained of weight loss and constipation during this period.

On physical examination patient was afebrile, blood pressure: 140/60 mm of Hg, pulse rate: 74/min and respiratory rate: 18/min. His abdomen showed deep tenderness in periumbilical, right lower quadrant regions. There were no signs of acute intestinal obstruction like distension, guarding, rigidity or rebound tenderness. There was no palpable lump.

Laboratory findings indicated anemia (hemoglobin: 9.5 g%), white blood cell count, platelet count, liver function tests, serum electrolytes, blood urea, serum creatinine are normal, serum amylase, and lipase levels are also normal.

Ultrasound abdomen showed a short segment thickened bowel loop in right iliac region probably ileum, decreased peristalsis, with dilated proximal segments. Mild amount of free fluid noted in abdomen and pelvis. No lymphadenopathy, no liver metastasis. Contrast-

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enhanced computed tomography scan with oral and intravenous contrast showed thickened terminal ileum of thickness 8 mm with dilated proximal bowel loops, mild to moderate ascites, no lymphadenopathy, and no liver metastasis.

Laparotomy was done, and a mass of 2 cm was identified at 10-15 cm from ileocecal junction causing obstruction with dilated loops of ileum and jejunum (Figures 1 and 2). Bowel wall was thickened with narrowed lumen. There were no mesenteric lymph nodes and no liver metastasis. Local resection was performed for a length of 4 cm on either side, and end to end anastomoses was done. Macroscopic examination showed typical yellowish nodular growth in the full thickness of the bowel wall with typical narrowing at the site of the growth.

Specimen was sent for histopathology. The diagnosis of carcinoid tumor was confirmed by pathologic report.

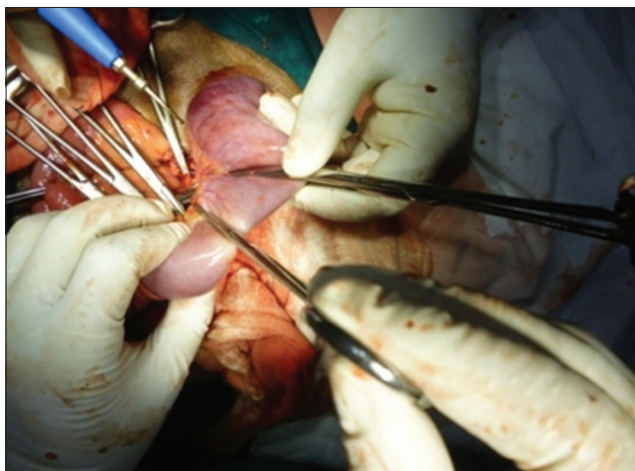


Figure 1: Intra operative picture



Figure 2: Dissected tumor

## DISCUSSION

Small intestinal obstruction usually presents with vague abdominal pain and distension of abdomen. Vomiting and constipation are features in either acute scenario or advanced stage of presentation.<sup>4</sup> In tropical countries small intestinal obstruction is usually associated with bowel adhesions in a previously operated patient or strangulated hernia. Tuberculosis of ileocecal region, ileoileal or ileocolic intussusceptions, and Meckel's diverticulitis are also other causes though rare. Small bowel tumors are extremely rare as a cause of intestinal obstruction.<sup>5,6</sup>

Carcinoid tumors are the most common primary tumors of the small intestines and mesentery. They can be traced to their embryonic origin from the endochromaffin cells of Kulchitsky which are the neural crest cells situated at the base of crypts of lieberkuhn.<sup>7</sup>

Carcinoid tumors of the gastrointestinal tract form the majority 66.9% as against those from the tracheobronchial tree which form about 24.5%. Of these, appendix is the most common site for carcinoid tumors in intestines. However, a small percentage of carcinoid tumors may arise from a small intestine also of these ileum forms the most common site (91%).<sup>8</sup> Male preponderance and average age incidence of above 55 years are observed. Small intestinal carcinoid tumors are in majority asymptomatic 70-80% and may be found incidentally at the time of operation for symptoms of bowel obstruction or during exploration. No specific imaging or endoscopic study or series can trace out the carcinoid tumors.<sup>9</sup> Typical histopathology specimen shows clusters of uniform cells with scant cytoplasm and nucleus exhibits salt and pepper chromatin pattern under electron microscopy.<sup>10</sup>

Frequently presenting as nodular growths or as stricture of the intestine with obstruction they have to be traced by careful intra operative examination of bowel inch by inch.<sup>11</sup> The lumen compromise may be traced to peritumoral fibrosis or invasion, causing direct luminal strictures, or secondary to desmoplastic reaction leading to ischemic changes. A small subset of functionally active tumors accounts for in this group. Such tumors secrete vasoactive substances such as serotonin, vasoactive intestinal peptide, etc., with a concomitant presence of multiple hepatic metastases.<sup>12</sup>

The primary management is by surgical resection. Local resection is done for tumors <1 cm size. For lesions more than 1.5 cm, there is a high risk of recurrence and so

segmental resection with extensive clearance of mesenteric lymph nodes is mandatory.<sup>13</sup>

In our case, we did a resection of 4 cm on proximal and distal sides in order to give a safe margin. A high index of suspicion has saved our patient as the diagnosis of carcinoid tumor by histopathology came as a surprise. The patient recovered well and is advised the follow-up every 3 months for the appearance of any recurrences or hepatic metastasis.

This case has been reported for its histopathological rarity, insidious clinical presentation, and fair recovery.<sup>14</sup>

## CONCLUSIONS

A case of Intestinal obstruction in a small bowel cannot be definitively given a preoperative biopsy specimen as it is inaccessible by endoscopy. Hence, while dealing with small intestinal tumors or isolated strictures causing mechanical obstruction careful palpation of the entire length of the small intestine and a generous resection should be planned and can affect the prognosis of the patient.

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