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*Case Report*

# Carcinoid Tumor of Small Intestine with Carcinoid Syndrome

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## ABSTRACT

Carcinoid of the small intestine accounts 1.5% of all carcinoids. Case 1 is of ileal Carcinoid having ileum of 24 in length with sessile tumor of 2 cm in diameter. Cut section was firm and pale yellow. Microscopically submucosa occupied by irregular nest of cell infiltrating the muscle coat. 15 lymph nodes scanned microscopically and 3 lymphnodes showed similar pattern of tumor. 2nd case is of Duodenal Carcinoid. Tumor consisting of 1x1 cm firm growth at first part of duodenum. On cut surface tumor is 2 cm in diameter having pale yellow colour. Microscopically muscle layer showed tumor tissue consisting of chords and sheets of cells having pleomorphic and hyperchromatic nuclei. There was no lymphnode metastasis. Both cases of Carcinoid landed up in Carcinoid syndrome during course of years.

***Keywords:*** Carcinoid of duodenum, Carcinoid of ileum, Carcinoid syndrome.

## INTRODUCTION

Carcinoid tumors are neoplasm's composed of endocrine cells. They account for about 1/3rd of small intestinal tumors. Classical Carcinoid tumors arise in duodenum or ileum usually in the 5th and 6th decades and are slightly more common in females. They are slow growing but invade the bowel wall to produce narrowing. They may metastasize to liver and mesenteric lymph nodes. Carcinoid tumors of duodenum are smaller and less aggressive than those of jejunum and ileum which tend more often to be invasive and metastasize. [1] Here we are presenting 2 cases of Intestinal Carcinoid reported in MGM Medical College Aurangabad in the year 2012.

## CASE REPORT

### Case 1:

***Clinical history:*** The patient 51 years female was admitted in July 2012 with crampy, central pain in abdomen. Physical findings were essentially normal. The gastrointestinal series were negative. Three months later she was again admitted with acute distress with interim history of similar episodes and weight loss around 20 lbs. Physical examination revealed hepatomegaly. USG abdomen revealed secondaries in liver with primary involving small bowel loops predominantly proximal ileal loop. CT abdomen revealed eccentric bowel thickening noted involving ileal loops

with multiple hepatic lesions. Possibility of neoplastic bowel wall thickening involving small bowel loops with hepatic metastasis. Laparotomy revealed a small constricting tumor of ileum approximately 30 cms from ileocecal junction. The ileum proximal to the tumor was dilated thickened and distally it was thin walled and collapsed. A wedge resection of terminal ileum was performed with side to side anastomosis. Pathological

***Examination:***

The specimen consisted of portion of ileum measuring 24 cm in length. On opening the lumen a sessile tumor with central ulceration was found almost at midpoint of ileal length. The tumor measured 2 cm in diameter. Cut section was firm and pale yellow. Rest of the ileum was edematous. On gross 15 lymph nodes were identified.

***Microscopy***

Microscopically the mucosa over the central portion of the tumor mass was completely ulcerated. The submucosa was occupied by irregular nests of cells infiltrating the muscle coat. These cells were monotonous with small round nuclei with moderate amount of fine nucleoli. Peripheral pallisading of cells seen with nesting tubules and glandular pattern was seen. 15 lymph nodes scanned microscopically 3 lymph nodes showed metastatic deposits of above mentioned tumor.

Fig 1.1 Case 1- Carcinoid of ilieum having tumor of Size 2 cm in diameter with cut section pale yellow.

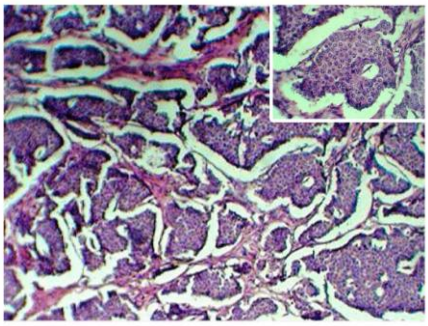

Fig 1.2 Case 1- microscopy {10x} of showing Submucosal with irregular nest of cell infiltrating muscle coat. Inset view showing monotonus cells with round nuclei with moderate amount of fine nucleoli{40x}.

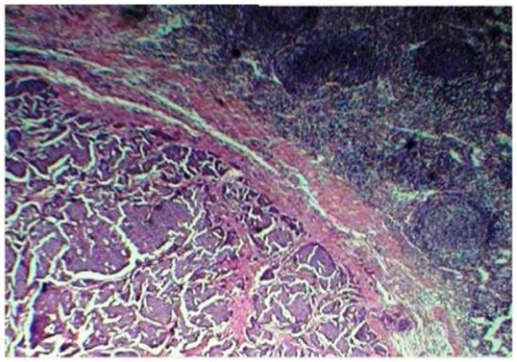

Fig 1.3 Case 1: Section from lymphnode showing metastatic deposits of Carcinoid {10x}.

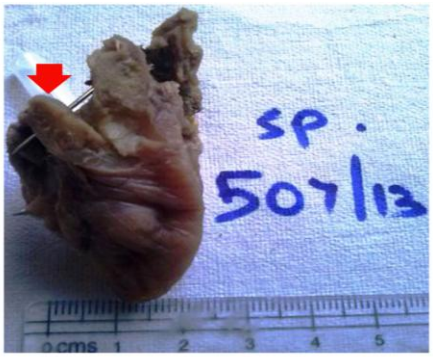


Fig 1.4 Case 2: Carcinoid of duodenum showing tumor of diameter 2 cm cut section pale yellow.

**Case 2:**

A 45 year old female came to surgery OPD with crampy pain in abdomen since 2 months and diarrheoa on and off since then. The patient also complained of heart burn, abdominal fullness and nausea vomiting on and off since 2 months. The physical examination was normal. The USG abdomen revealed a hypoechoic lesion confined to the submucosal layer. The underlying muscularis propria appeared intact. CT abdomen revealed signs of filling defect in the first part of duodenum? polyp. Upper GI Endoscopy revealed signs of gastro intestinal stromal tumor. Laparotomy revealed a small constricting tumor firm to hard 1x1cm in growth at the first part of duodenum 1 cm distal to pylorus.

***Pathological Examination***

The specimen contained duodenum measuring 3.5cm in length, externally congested. Cut section showed mucosal ulceration at one end and a small tumor tissue measuring 2cm in diameter. Cut section of the tumor was pale yellow and firm. No lymph nodes were identified.

***Microscopy***

The tumor section showed lining mucosa. Underneath submucosa, muscle layer showed tumor tissue consisting of cords and sheets of cells which are small having pleomorphic and hyperchromatic nuclei with salt and pepper appearance. Serosa is intact and showed congested blood vessels.

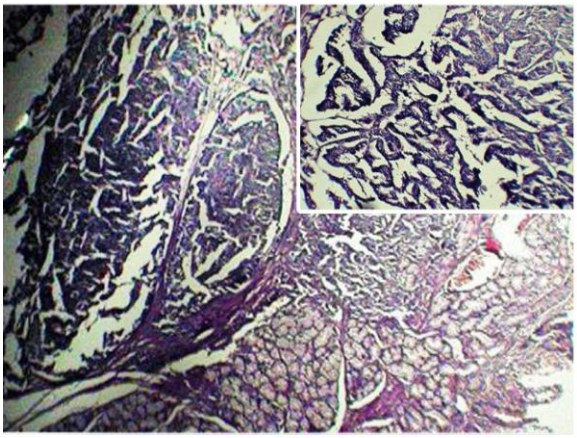

Fig 1.5 Case 2 : Microscopically shows mucosa, submucosal and muscle layer having tumor tissue consisting of cords and sheets of cells{4x}. Inset showing insular pattern of tumor having cells with pleomorphic hyperchromatic nuclei and salt and pepper appearance.{10x}.

## DISCUSSION

Carcinoid tumors were first described accurately by Lubarsch in 1888. Although Oberndofer designated them as Carcinoid in 1907. Combined surgical and autopsy incidence is approximately 0.1%. [2] Gastrointestinal tumors are the most common primary tumors of the small bowel and mesentry. It accounts for more than 95% of all carcinoids and 1.5% of gastrointestinal tumors. Various sites of origin of this neoplasm are appendix 30-35%, small bowel 20-35% (duodenum 2%, jejunum 7%, ileum 91%, multiple sites 15-35%), Rectum 10-15%, Caecum - 5% and Stomach - 0.5%. Carcinoids can also rarely occur in pancreas, biliary tract, oesophagus and liver. Most carcinoids occur in patients older than 50 years, however, appendiceal carcinoids occur in young patients in their second to fourth decade. Most patients are asymptomatic but symptoms can vary from pain, intestinal obstruction (19%), weight loss (16%), palpable mass (14%), intussusceptions, perforation or gastrointestinal hemorrhage (rare]. The tumor also elaborate serotonin and other histamine like substances than can cause Carcinoid syndrome which is characterized by abdominal cramps, diarrhoea, hepatomegaly, flushing etc. Carcinoids also have the tendency to metastasize to lymph nodes, liver and rarely bone. [3] Carcinoid of duodenum produces hormones like gastrin, somatostatin, CgA which gives symptoms like nausea vomiting, abdominal pain and

gastroesophageal reflux caused by excess of acid production and diarrhea which is present in our case 2. Carcinoid of ileum produces 5 HT, CgA, NKA, Substance P, bradykinin, prostaglandin which gives symptoms like long history of intermittent crampy abdominal pain weight loss, fatigue, abdominal distension, nausea vomiting which was present in our case 1. [4, 5] Most of Gastrointestinal carcinoids secrete their bioactive amines into portal circulation and the effects of these mediators are diminished by hepatic detoxification. Hence in patients with liver metastasis hepatic detoxification is hampered. [4] So Carcinoid syndrome [flush, diarrhea etc] is seen in both our cases. Carcinoid of stomach, duodenum and rectum are generally found by endoscopy are frequently found at early stages. In contrast jejunoilal Carcinoid are not commonly detected incidentally and are transmurally invasive at the time of diagnosis. [5] Hence lymph node metastasis is not seen in our case of duodenal carcinoid as seen in our case of ileal carcinoid. Duodenal Carcinoid tumors are smaller than 2 cm in diameter and confined to submucosa has limited metastatic potential and therefore can be managed by local excision alone and has good prognosis. Prognosis of Carcinoid of gut depends upon the depth of invasion and presence of metastasis. [6]

## SUMMARY

A review of 2 cases of intestinal Carcinoid is presented; 1st is of Carcinoid ileum with lymph node and liver metastasis and 2nd is of Carcinoid duodenum both landing up in Carcinoid syndrome during course of years.

## CONCLUSION

Carcinoid of small intestine accounts for 1.5% of all Carcinoid. Above 2 cases are very rare and both cases showing Carcinoid tumor with Carcinoid syndrome. Therefore detailed clinical history along with histopathological findings is necessary for diagnosis of Carcinoid syndrome.

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