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### Case Report

## Adenocarcinoma in First and Second Part of Duodenum - a Case Report

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#### ABSTRACT

Adenocarcinoma of duodenum is a rare gastrointestinal tumor accounting for 2% of all gastrointestinal malignancies. Diagnosis is most often delayed because of vague and nonspecific symptoms and sign. Hence time lag between initiation of cancerous lesion to clinical presentation, diagnosis and treatment of the disease is associated with consequent poor outcome. In present case report we describe clinical presentation, diagnostic modalities and management of 64 year old male who was diagnosed as adenocarcinoma of duodenum. He underwent Whipple's pancreaticoduodenectomy. Adjuvant chemotherapy was also administered.

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### 1. Introduction

Malignant tumors of small intestine are seen infrequently accounting for 2% of all gastrointestinal malignancies. [1](Sampath kumr) Adenocarcinoma is the commonest histological type of small bowel cancer followed by carcinoid tumor, lymphoma and leiomyosarcoma.[2](CCLee) 45-55% of them are found in duodenum among which 15% of them are located in first part, 40% in second and 45% in third and fourth part of duodenum. [3](Coit DG) Diagnosis is most often delayed because of vague and nonspecific symptoms and sign. Hence time lag between initiation of cancerous lesion to clinical presentation, diagnosis and treatment of the disease is associated with consequent poor outcome.

### 2. Case Report

A 64 year old man presented with history of repeated progressive bilious vomiting one and half hour after food ingestion not relieved by medications. Also he had significant weight loss of 16 Kg since last two months. There was no history of fever and altered bowel habits. On clinical examination there was no jaundice and significant lymphadenopathy. Patient was not known case of Diabetes mellitus, hypertension, tuberculosis or any major illness.

Also he had no significant personal and familial history of malignancy. Physical examination revealed nonballotable mass in epigastric region which was not moving with respiration.

Abdominal ultrasonography showed irregular thickened wall of duodenum. Computed tomography of abdomen revealed well defined mass in second part of duodenum with hardly any passage of oral contrast across mass suggesting obstruction. On color Doppler scan there was evidence of narrowing of lumen at D2 and D3 junction with thick walls of duodenum and retroperitoneal paracaval lymph nodes. An esophagogastroduodenoscopy showed oesophagitis, infiltrative lesion with superficial ulceration and narrowing of lumen at D2. A blind biopsy from the lesion in D2 region reported evidence of dysplastic glands against background of chronic active duodenitis.

Patient underwent exploratory laparotomy. Intraoperative frozen section biopsy from duodenal mass suggested possibility of adenocarcinoma. Hard lobulated mass in pancreatic head and sharp well demarcated stricture in D2 region was observed. Whipple's pancreaticoduodenectomy was performed. Pathological examination of surgical specimen showed ulcerative nodular lesions in periampullary region measuring 2.6x1.7x2cm. Histopathologically tumor was well differentiated adenocarcinoma with areas of neuroendocrine differentiation. Resected margins of stomach, small intestine, cystic duct, common biliary duct, pancreas and gall bladder were free of tumor invasion. Lymph nodes from peripancreatic, gastric and duodenal

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region showed evidence of metastasis. Hence tumor was staged as T2N1Mx. Immunohistochemistry examination confirmed diagnosis of infiltrating adenocarcinoma without neuroendocrine differentiation. Intraoperative and perioperative period was uneventful.

After 2 months six cycles of adjuvant chemotherapy were advised to the patient. Each cycle consisted of intravenous injections of Meditaxel, 5 fluorouracil and cisplatin at the interval of 21 days. This phase of management was also uneventful.

### 3. Discussion

Adenocarcinoma of duodenum is a rare gastrointestinal tumor. Around half of small bowel adenocarcinoma is located in duodenum. [4] But 45% of them are in third and fourth of duodenum. Most of the cases are sporadic but might have been associated with familial adenomatous polyposis, Crohn's disease, Peutz-Jeghers syndrome, immunosuppression, Coeliac disease and neurofibromatosis. [5,6] In our case patient did not have any such underlying etiology.

Small bowel cancers are diagnosed at late stage with consequent poor prognosis. Symptoms at the time of presentation are nonspecific like pain in abdomen, anemia, weight loss jaundice, abdominal mass, bowel ulceration, perforation or obstruction. With the aid of endoscopy reported incidence of adenocarcinoma of duodenum is increased. Careful preoperative evaluation of the patient using computed tomography, magnetic resonance image and barium meal examination help to detect exact site and extent of lesion, invasion to surrounding structures and metastasis to lymph nodes and distant organs. Upper GI endoscopy with small bowel enteroscopy may help in identification and biopsy of lesions in duodenum and jejunum. Videocapsule endoscopy is promising diagnostic tool for small bowel cancers. This is very important aspect while deciding the surgical management. [7]

Surgical management of choice for tumors in duodenum includes either classical segmental resection or Whipple's operation. For lesions in first and second part of duodenum as our case had, Whipple's operation provides favorable prognosis. If detected in early stage tumors can also be successfully removed with endoscopic resection. Mallika Tewari described case report about carcinoma of duodenum in fourth part managed with segmental resection. [8] Wasike RW also described a case of primary adenocarcinoma of duodenum with palliative management. [9] For advanced tumors palliative management with gastric bypass and stenting, feeding jejunostomy, biliary and enteric bypass is advised. [10] Small bowel cancers are resistant to radiotherapy. In case of localized lesion without spread to surrounding and distant organs chemotherapy is also not advised. Role of chemotherapy is still uncertain. [8] It is beneficial for patients with metastasis as an adjunct to surgery. So only promising therapeutic mode is surgical management in these patients.

Prognostic factors influencing long term survival are size, site, multiplicity, stage and differentiation of tumor. Also surgical

resection margins, depth of tumor invasion, lymph node status, and distant metastasis affect prognosis and outcome of the patient. Common sites of metastasis are liver, peritoneum, and lungs. [11]

Small intestine, although the longest portion of digestive tract has low incidence of malignancy. Small bowel tumors account for less than 1.0 per 100000 populations. Due to infrequency and multiple histological subtypes these are the least studied cancers. [12] Etiology of low incidence of small bowel cancers than of colorectal cancer is unknown. It might be because of large volume of alkaline fluid, various enzymes and high expression of immunoglobulin A level diluting and detoxifying carcinogens. [7] Peristaltic contractions of small bowel with greater frequency minimize time for exposure of mucosa to carcinogen.

Present case report highlights clinical presentation, different diagnostic aids used, pathological features and therapy administered to a patient with adenocarcinoma of first and second part of duodenum. Preoperative imaging investigations with clinical suspicion help to reveal the nature of tumor and decision making for further management.

### 4. Conclusion:

Malignancy in duodenum is relatively rare entity which is difficult to diagnose imposing great challenge for treatment. Whipple's pancreaticoduodenectomy with adjuvant chemotherapy offers better outcome for adenocarcinoma in proximal portion of duodenum.

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