



DUODENAL METASTASIS OF TREATED RENAL CELL CARCINOMA : A RARE OCCURRENCE

Radiodiagnosis

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ABSTRACT

Goal: Case Presentation Of Rare Occurrence Of Duodenal Metastasis In Treated Case Of RCC:

Method: Observational, Rare Occurrence In Treated Renal Cell Carcinoma On CT Scan; A Rare Occurrence isolated Presentation Of Duodenal Metastasis In Known Case Of Renal Cell Carcinoma Is Rare Occurrence, Case Reported Is 62 Year Old Male Patient With History Of Renal Cell Carcinoma In Left Kidney. Patient Was Treated With Left Nephrectomy. Patient Presented With Complaint Of Passing Black Stool Per Rectum Since Two Week CT Scan Revealed A Mass Lesion In Duodenum Endoscopy Was Done In Which Mass Lesion Was Seen. Biopsy Confirmed It To Be Metastasis From Renal Cell Carcinoma.

Conclusion: It Is Important To Consider That Metastasis To Duodenum Can Occur In Rcc.

Summary: RCC Contribute To 5% Adult Case In Male And 3% Of In Of RCC In Women And Most Common Primary Tumor Of Kidney And Is 16th Most Common Type Of Cancer In World. Extra Renal Spread Of RCC Seen In Around 28% Of Patient. Most Common Metastasis In RCC Occur To Lung Followed By Bone, Lymph Node, Liver, Adrenal Gland And Brain. Duodenal Metastasis Of RCC Less Common And Rare Form Of Presentation. The Reported Case Is A 62 Years Male Patient Had History Renal Cell Carcinoma In Left Kidney. Patient Was Treated With Left Nephrectomy. Patient Presented With Complaints Of Passing Black Stool Per Rectum Since 2 Weeks. CT Scan Revealed A Mass Lesion In Duodenum. Endoscopy Was Done In Which A Mass Lesion Was Seen. Biopsy Confirmed It To Be Metastasis From Renal Cell Carcinoma.

KEYWORDS

Duodenal Metastasis, RCC, CT Scan.

INTRODUCTION

Most common primary renal malignancy is RCC account for around 3% malignancy all over world.¹ Most common site of metastasis in RCC is lung followed by bone, lymph node, liver, adrenal gland and brain.² Duodenal metastasis is in itself a rare entity. Metastasis to GIT in a known case of Renal Cell Carcinoma should always be suspected whenever a patient presents with persistent vomiting, hematemesis, jaundice, abdominal pain or lump in abdomen in a known case of RCC. RCC is known to metastasize to almost any site in body. Small bowel involvement is rare, however out of all cases RCC contribute about 0.2-0.7 % of gastrointestinal track.³ CT Scan is indicated for overall assessment of small bowel loops. Duodenal involvement is also suggested by ultrasound. However the confirmation is done by biopsy obtained by upper GI endoscopy.

Case Report

A 62 years male patient presented with history of malena and vomiting. It was also associated with pain in abdomen. Pain was continuous and dull in nature. Patient has past history of diabetes mellitus and is well controlled with oral hypoglycaemic agents. He denied any use of alcohol or smoking. On physical examination, he appeared pale. Abdominal examination was unremarkable.

Patient had undergone nephrectomy eight months back. There was a 42 x 51 mm sized mass lesion in upper and mid pole of left kidney. On admission laboratory investigation were significant for microcytic hypochromic anemia with haemoglobin 4.9 g/dl, hematocrit 18.7%, MCV 76.4 fl and MCH 24.2 pg/l. Liver function of patient were normal. Past surgical history revealed RCC in left kidney. The lesion was infiltrating the renal capsule, perinephric fat and adjacent renal vessels. However the cut ends of renal vessels at surgery were free of tumour. Vascular permeation was present and lymphatic permeation was absent. Patients past history not provide any evidence of metastatic disease in body at the time of surgery. Patient now presented with the above mentioned symptoms after eight months of operation.

Ultrasound revealed hypo-echoic mass lesion in 2nd part of duodenum. It measured 43 x 44 mm in size. The lesion indented the lumen of duodenum. CT scan of Abdomen was advised. Non contrast enhanced CT scan revealed hypodense mass lesion involving 2nd part of duodenum along medial wall which was outlined by oral contrast

(Figure. 1). Contrast Enhanced CT scan showed mild to moderate enhancement of lesion (Figure. 2). The lesion was predominantly located along medial wall and caused luminal narrowing. The lesion abuts head of pancreas and displaces its medially. MPD and CBD appear normal. Coronal reconstruction showed relation of mass with duodenum (Figure. 3). Other solid organs of abdomen and rest of bowel loop were normal.

The following day patient was taken for endoscopy. It revealed a submucosal mass lesion with surface ulceration starting from 1st part extending to 2nd part of duodenum. The lesion was involving the medial, anterior and posterior walls. The lesion was occluding approximately 50 percent of duodenal lumen.

Biopsy taken from the lesion and sent for immunohistochemistry. The biopsy revealed involvement of mucosal and sub-mucosal layers with metastatic renal cell carcinoma. The tumour cells were positive for PAS and sensitive to diastase.

DISCUSSION:

Worldwide, RCC accounted for 3,38,000 new cases, 3% of all systemic malignancies and 1,44,000 death reported due to RCC in 2012.⁴ RCC is known to occur in 5th and 7th decade.⁴ The histological cell types include clear cell, papillary, chromophobe and rarely sarcomatoid variety. However imaging wise the tumour growth patterns observed can be papillary or trabecular/ tubular. But when the tumour has cystic-solid areas, it is associated with poor prognosis. Distant metastasis present in about 18 % of patients with RCC and metastatic lesion are mostly hypervascular leading to complications due to bleeding.⁵

The risk of RCC metastasis is known to be strongly associated with tumour size. Roughly, if the size of primary tumour at the time of presentation is less than 3 cm, then the incidence is less than 0.2 percentage for synchronous metastatic disease. However if the tumour size is more than 5 cm, then the incidence of synchronous metastatic disease increases to 4 percentage and above the size of 8 cm the incidence increases above 16 percentage.⁶

The most common organ to receive metastasis from RCC is lung

contributing to more than half of the cases. Other organs affected are liver, bones, adrenals, contralateral kidney and brain. Bowel is affected in 4 percentage of cases.⁷ RCC metastasized to various organ occur via the lymphatic or hematogenous route and by peritoneal dissemination or direct invasion into adjacent abdominal organ.

The present case reports a male of 62 years, developing metastatic disease post nephrectomy. In our case the metastasis was localized to duodenum and showed no evidence of metastasis elsewhere in body. Duodenal metastasis occur when there is wide spread nodal and visceral metastasis. We however are of the opinion that since the disease free period was of eight months in this patient, metastatic lesion undetectable on imaging might have been present at the time of surgery microscopically.

About half of small bowel malignancies and 0.3 % GI track malignancy are duodenal malignancy.⁴ Lesion in duodenum are mostly located second part of duodenum in the periampullary region or the duodenal bulb.

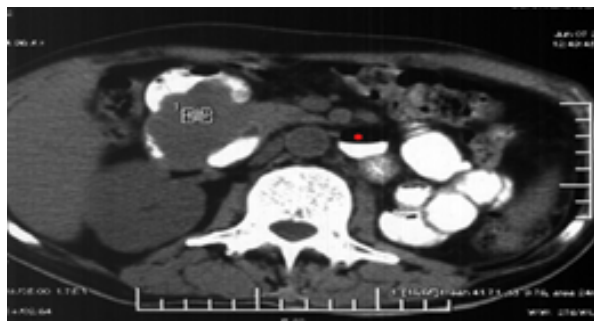
According to morphological features duodenal metastasis are divided into four types : compressive, protrusive, ulcerative and stenotic. Metastatic lesion from extra-abdominal primary cancer is Protrusion type with central ulceration, called 'bull's-eye' pattern. This type of metastatic lesion is mostly hematogenous. Lesion reported in this case was a submucosal lesion with protrusion into the lumen of the duodenum causing significant luminal narrowing of 2nd part of duodenum.

It is important to realize that treatment options for metastasis of RCC have to be considered vigorously. In case of solitary metastatic lesion selective angiographic embolisation of the metastasis, argon laser plasma coagulation or selective resection of part of small bowel can be done. Presence of metastasis elsewhere in body other than small bowel involves use of chemotherapy and radiotherapy as per the case may be.

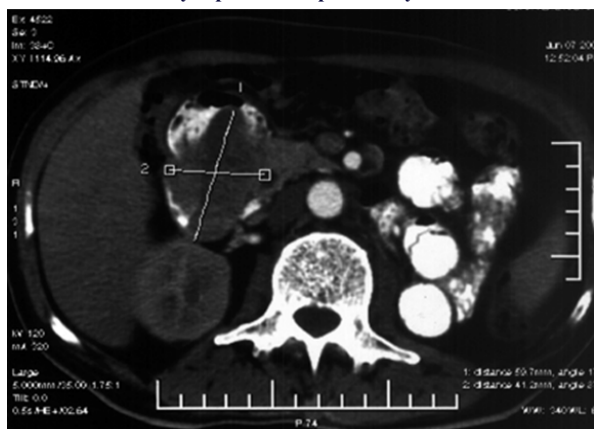
The surgeon had considered angiographic embolisation of metastasis in our case. However the patient did not survive a massive episode of hematemesis that followed soon.

ILLUSTRATION

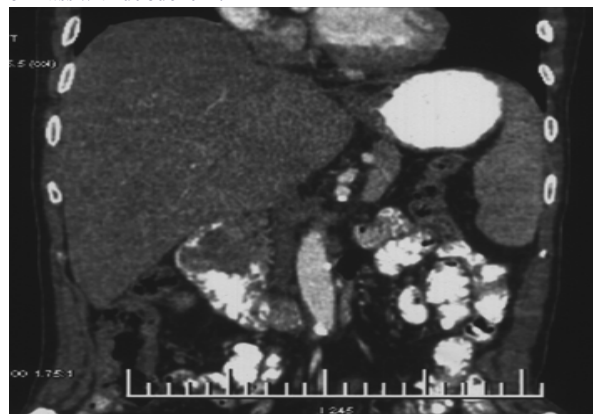
(1) Figure. 1 : NCCT scan showing lesion involving second part of duodenum.



(2) Figure. 2 : Contrast Enhanced CT scan showing mild to moderate enhancement of duodenal mass lesion. Left kidney is absent due to history of previous nephrectomy



(3) Figure. 3 : Coronal reconstructed image showing relationship of mass with duodenum.



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