

# Metastatic Renal Cell Carcinoma Causing Small Intestinal Polyps with Intussusception: A Report of Two Cases

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## ABSTRACT

Renal cell carcinomas have diverse clinical presentations. Patients may present with metastatic symptoms at the time of diagnosis or years after resection of primary tumour. Small intestine is a rare site for metastatic renal cell carcinoma. Presentation as polypoid metastasis with intussusception is extremely rare. Here, we report two cases with this rare presentation. Case 1 was a 65-year-old male with multiple polypoid metastasis causing intussusception while on palliative chemotherapy for renal cell carcinoma. Case 2 was a 68-year-old female with history of nephrectomy presenting with single polypoid metastasis causing intussusception.

**Keywords:** Immunohistochemistry, Jejunal intussusceptum, Malignancy

## CASE REPORT

### Case-1

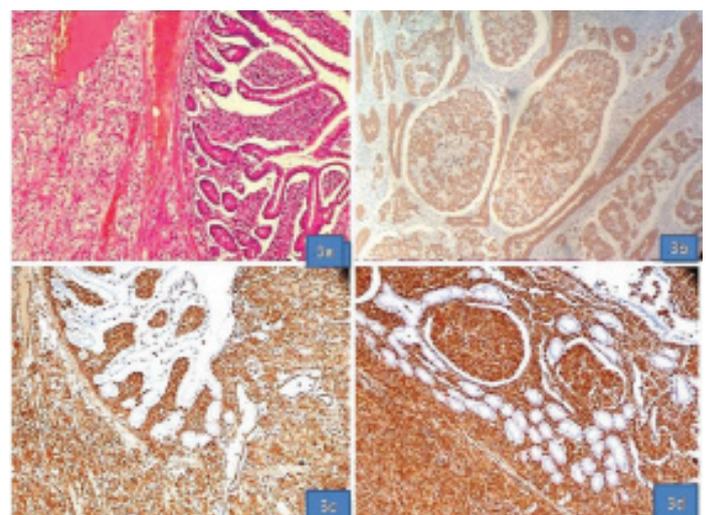
A 65-year-old male presented with acute onset abdominal pain to gastroscopy casualty. He had a history of right hemiparesis four months prior for which he was investigated. Radiological investigations done during that admission showed intracranial space occupying lesion suggestive of metastasis. Further investigations showed right renal mass suggestive of renal cell carcinoma on abdominal Computerized Tomographic (CT) scan and metastatic lesions in both lungs on CT thorax. As the patient was not willing for surgery he was given supportive care and palliative radiotherapy. While on treatment, patient developed acute abdominal pain. CT abdomen showed jejunojejunal intussusception and right renal mass [Table/Fig-1]. An emergency laparotomy was done and a segment of jejunum, 42 cm long was received for histopathological study. The intussusceptum was 8 cm in length with two polyps at the tip, each of which measured 2x1 cm. Rest of the mucosa showed two polyps of which the larger measured 3x3 cm and the smaller measured 0.75x0.5 cm. Cut section of all the polyps were brownish with grey white areas [Table/Fig-2]. Three mesenteric lymph nodes were identified and the largest measured 1x0.5 cm.



**[Table/Fig-1]:** Computed tomographic scan showing right renal mass and jejunojejunal intussusception in Case 1.



**[Table/Fig-2]:** Resected segment of small intestine with multiple polyps in Case 1. Polyps at tip of intussusceptum (red arrows) and other polyps (blue arrows).



**[Table/Fig-3]:** a) Jejunum with a submucosal tumour composed of clear cells in trabecular and alveolar pattern (H&E 10X); b) Pancytokeratin positivity in tumour cells (IHC10X); c) Vimentin positivity in tumour cells (IHC 10X); d) CD10 positivity in tumour cells (IHC 10X) (all in Case 1).

Polyps on microscopy showed jejunal mucosa with an underlying neoplasm composed of cells in trabecular and alveolar pattern with uniform small centrally placed vesicular nuclei, inconspicuous nucleoli and abundant clear cytoplasm separated by delicate fibrovascular

septae [Table/Fig-3a]. Mesenteric lymph nodes also showed tumour deposits of similar morphology. Immunohistochemistry showed positivity for pancytokeratin [Table/Fig-3b], vimentin [Table/Fig-3c] and CD10 [Table/Fig-3d]. The final diagnosis was jejunojejunal intussusception with multiple polypoid metastasis of clear cell renal cell carcinoma.

### Case-2

A 68-year-old female with history of right radical nephrectomy four years back diagnosed as clear cell renal cell carcinoma presented with acute abdominal pain. CT abdomen showed jejunal intussusception and an emergency laparotomy with jejunal resection was done. The resected segment of jejunum was 16 cm long with an intussusceptum 6 cm long and a polyp at its tip which measured 5x4.5 cm [Table/Fig-4]. Multiple matted mesenteric lymph nodes were also present. Jejunal polyp and lymph nodes on microscopy showed nests of clear cells with moderate atypia separated by fibrovascular septae [Table/Fig-5a]. Extensive lymphatic tumour emboli were also present. Immunohistochemistry showed vimentin [Table/Fig-5b], pancytokeratin [Table/Fig-5c] and CD10 [Table/Fig-5d] positivity. The final diagnosis was metastatic clear cell renal cell carcinoma with intussusception.

Both patients were given supportive care and palliative radiotherapy. Our first patient died three months after surgery and the second patient died six months after surgery.

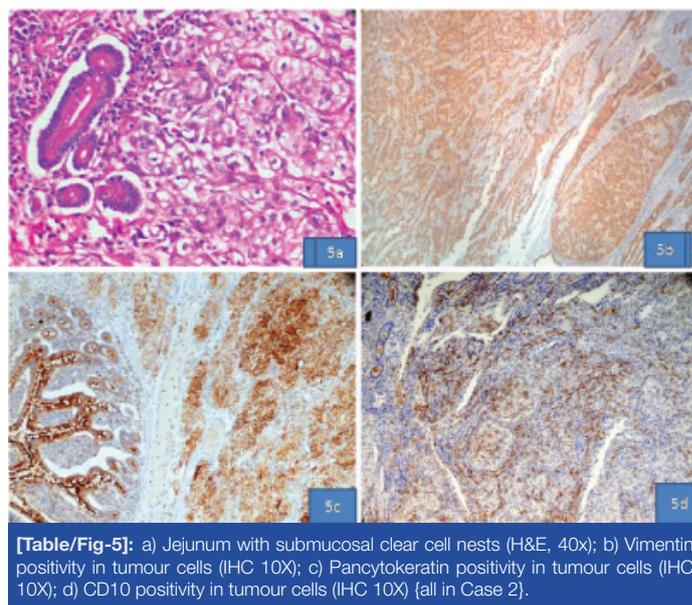
## DISCUSSION

Renal cell carcinomas constitute 3% of all adult malignancies and have diverse clinical presentations. Patients may present with classical symptoms like hematuria and loin pain or with features of metastatic disease. Less than half of the patients have metastatic disease at the time of diagnosis [1]. Metachronous disease has been reported in up to 50% of patients treated with nephrectomy for renal cell carcinomas and may be seen years after treatment of primary disease [2]. Our first patient presented with metastatic disease in brain and lungs before the detection of primary tumour and with multiple jejunal metastasis after four months. The second patient presented with jejunal metastasis two years after resection of primary tumour. Common sites of metastasis in renal cell carcinoma are lungs, lymph nodes, bone and liver. Secondary tumours of small intestine are more common than primary tumours and have been documented in 1% to 2% of malignancies. Of the metastatic tumours melanomas are the commonest [3]. Renal cell carcinomas make up 7.1% of tumours metastatic to small intestine. Most common presentation is gastrointestinal bleeding. Rare cases present with obstructive symptoms in the form of intussusception. Multiple polypoid metastasis as seen in one of our cases is extremely rare [4-6]. Intussusception unlike in children is not common in elderly and is usually associated with an underlying neoplasm [6]. A few cases of intussusception caused by small intestinal metastasis of renal cell carcinomas have been reported, but multiple polypoid metastasis causing intussusception is extremely rare [7].

The most common gross presentation is that of a polypoid lesion as in our cases. Case1 had multiple polyps [4-7]. In most of the reported cases of small bowel metastasis the tumours had the morphology of clear cell carcinoma [4,6-8]. In our cases, the tumours had the characteristic histopathological features of clear cell carcinoma. Immunohistochemistry showed co-expression of pancytokeratin, vimentin and CD10 in tumour cells which along with a history of renal cell carcinoma confirmed the diagnosis of metastatic clear cell renal cell carcinoma in both cases and excluded the possibility of other metastatic clear cell tumours of small bowel [9]. An increasingly recognized primary tumour with clear cell morphology having predilection for small intestine is gastrointestinal clear cell sarcoma. These are aggressive tumours predominantly seen in young adults with strong diffuse expression of S-100 protein [10].



[Table/Fig-4]: Resected segment of small intestine with polyp at the tip of intussusception (marked with arrow) in Case 2.



[Table/Fig-5]: a) Jejunum with submucosal clear cell nests (H&E, 40x); b) Vimentin positivity in tumour cells (IHC 10X); c) Pancytokeratin positivity in tumour cells (IHC 10X); d) CD10 positivity in tumour cells (IHC 10X) [all in Case 2].

Treatment options in metastatic renal cell carcinoma depend on the extent and location of metastatic disease. Even with best available treatment prognosis is poor.

## CONCLUSION

Metastatic tumours can involve the small intestine in the form of polypoid lesions causing obstructive symptoms. Though the most common primary tumours causing small intestinal metastases are malignant melanomas and carcinomas of lung, breast and ovary, the possibility of metastatic disease should also be thought of in patients with primary renal cell carcinoma presenting with features of intestinal obstruction. In our cases the patients presented with polypoid lesions causing intestinal obstruction.

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