

## Case Report (II)

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# Renal Metastasis from Primary Hepatocellular Carcinoma

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### ABSTRACT

**Renal metastasis is a common autopsy finding. However they are rarely identified antemortem, especially at presentation. We report a case of a 48-year-old man who presented with jaundice and masses in the liver and kidney. On evaluation he was found to have a poorly differentiated adenocarcinoma with grossly elevated alpha-fetoprotein levels. He was started on weekly 5 fluorouracil to which he responded. Patient is symptomatically better at 4 months follow up.**

### INTRODUCTION

Hepatocellular carcinoma, a common tumour is mostly diagnosed at an advanced stage due to its propensity for intravascular and intra biliary spread. Most common sites of extrahepatic metastasis include- peritoneum, lung, adrenal gland and bone. Metastasis to kidney is rare. We report a case of hepatocellular carcinoma with metastasis to the kidney that responded favorably to 5 fluorouracil (5FU).

**CASE :** A 48-year-old man presented with fever and chills of one month duration. He gave history of passing high coloured urine and right hypochondrial pain for the preceding 10 days. There was history of loss of appetite and weight

that were significant. There was no history of abdominal distension, loin pain, vomiting, hematemesis, malena, altered bowel habits, cough, and dyspnoea. He was not a known hypertensive or diabetic. There was no other significant past history. He was not a smoker but used to consume alcohol occasionally.

He was investigated elsewhere and found to have elevated serum bilirubin, predominantly direct, with normal liver enzymes. He had a normocytic and normochromic anemia. His renal function was normal. US scan of the abdomen revealed a mass measuring 10.7 x 8 x 6.5 cm in the upper pole of the right kidney, suggestive of renal cell carcinoma. He was negative for Hepatitis B surface antigen. He was referred to our center for further management.

On examination, his ECOG Performance status was 3. He was pale and icteric. There was no clubbing, edema or stigmata of chronic liver disease. His cardiovascular and respiratory systems were normal. Abdominal examination revealed - a 5 cm hard hepatomegaly. There were no dilated veins or free fluid. He had a bilateral vaginal hydrocele. Rectal examination was normal.

He was evaluated in our hospital with a computed tomography scan (CT scan), which revealed, hepatomegaly with surface nodularity and a diffuse hypo-attenuating lesion in the right lobe with an irregular contour measuring 17 x 11.9 cm (Fig 1). A well-encapsulated soft tissue lesion with inhomogeneous enhancement was seen in the

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Figs 1: CT scan showing 17 x 11.9 cm irregular lesion in the right lobe of liver

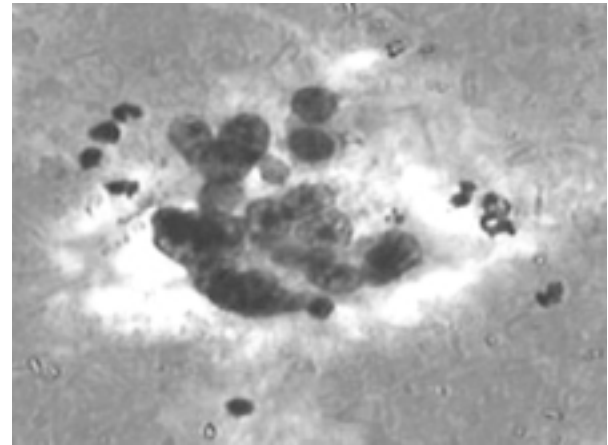


Fig 3: Cell block from the liver mass

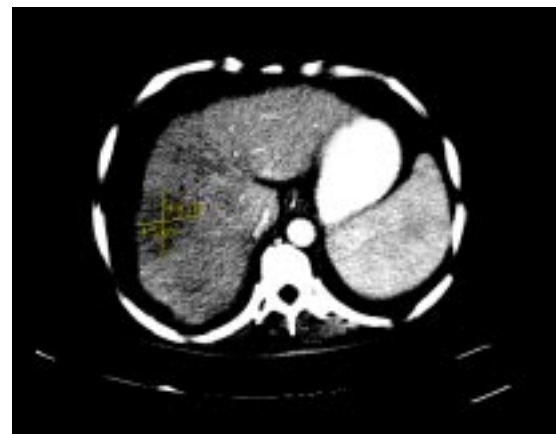
upper pole of the right kidney, abutting segment 6 of liver measuring 8.5 x 8.1cm (Fig 2). There were no enlarged lymph nodes or free fluid in the



Figs 2: CT scan showing mass 8.5 x 8.1 cm in the upper pole of the right kidney abutting segment 6 of liver

abdomen. A sonogram of the scrotum revealed bilateral vaginal hydrocele with normal testes. S. bilirubin - 5.2mg/dl, SGOT- 54 U/L and SGPT- 146 U/L, S. alkaline phosphatase was 317 U/L. The  $\alpha$ -fetoprotein (AFP) level was 3,04,000 ng/ml. Fine needle aspiration biopsy cytology [FNABC] from the liver and kidney showed features consistent with adenocarcinoma. The morphology of both the lesions were similar. The cellblock from the liver aspirate showed features of a poorly differentiated adenocarcinoma (Fig 3).

In view of the liver mass, grossly elevated AFP levels and needle biopsy features from both tumours showing similar morphology, he was treated as a hepatocellular carcinoma with metastasis to kidney. He was treated with weekly bolus injections of 5FU 500 mg intravenously. Over the next 12 weeks his general condition showed good improvement with better intake, resolution of the jaundice and hepatomegaly. A repeat CT scan showed a partial response in the liver (Fig 4) and



Figs 4: CT scan after 12 weeks of treatment showing regression of the liver mass

kidney . The AFP levels had come down to 60.3 ng/ml. The patient continues to be better symptomatically at the time of this report.

## DISCUSSION

Metastatic tumours to kidney are commonly diagnosed at autopsy. In a large autopsy series, they constituted 7-13 % of all renal tumours.<sup>1</sup> Renal metastases are 2-3 times more common than primary renal cell carcinoma.<sup>2</sup> It is the fifth most common site for metastasis after lung, liver, bone and adrenal glands.<sup>3</sup> Although the kidney is a frequent site of metastasis, they are seldom clinically identified and are often clinically inconsequential. Metastases do not grow large enough to become radiologically demonstrable because of brief survival of the patient.<sup>4</sup> They are seldom associated with symptoms but can sometimes manifest as tumour haemorrhage.<sup>5,6</sup> Rarely it may present as acute renal failure due to diffuse replacement of the renal parenchyma by metastasis.<sup>7</sup> Less than 50 cases have been diagnosed ante-mortem.<sup>8</sup>

Common malignancies that metastasize to the kidney include lung, breast, gastrointestinal tumours, lymphoma and melanoma.<sup>1,9</sup> Renal metastasis results from hematogenous spread. The high blood flow and profuse vascularity of the renal parenchyma provides an ideal environment for metastatic spread. Metastasis to kidney commonly presents as multiple lesions.<sup>10</sup> Clinically the possibility of metastasis to kidneys should be raised if there is a clinical history of malignancy and there are multiple bilateral renal masses.<sup>11</sup> Occasionally patients present with solitary renal mass and current known primary tumour elsewhere. In these patients an FNABC may be done to determine whether the renal lesion represents a metastasis or primary renal cell carcinoma.<sup>11</sup> Renal metastasis may also present with diffuse infiltration of the kidney. They do not distort the renal contour but may have a variable appearance. The principal method of identification is by CT scan and CT guided aspiration biopsy. Most malignancies with metastasis to kidney show progression of the primary lesion at the time of detection of the renal

metastasis. Intent of treatment in these patients is palliative. The treatment outcome and overall survival of these patients is poor.

## REFERENCES:

- 1) Klinger ME. Secondary tumours of the genitourinary tract. *Urol* 1951;65:14.
- 2) Bennington JL, Beckwith JB. Tumours of the kidney, renal pelvis and ureter, In *Atlas of Tumour Pathology*. Washington DC, Armed Forces Institute of Pathology, 1975, 2nd edition, p 31.
- 3) Mitnick JS, Bosniak MA, Rothberg M, et al. Metastatic tumours to the kidney studied by computed tomography and sonography. *J Comput Assist Tomogr* 1985;9:43
- 4) Davidson AJ. *Radiology of the Kidney*. Philadelphia, WB Saunders. 1996,p330.
- 5) Walther MM, Marks, LS Smith RB. Renal metastasis of adenocarcinoma of lung- massive hematuria managed by therapeutic embolisation. *J Urol* 1979;122:3988.
- 6) Mezawa S, et al. Spontaneous rupture of renal metastasis of Hepatocellular carcinoma: management by emergency transcatheter arterial embolisation. *Cardiovasc Intervent Radiol* 2001;24:143.
- 7) Manning EC, Belenko MI, Fraunhofer EE, et al. Acute renal failure secondary to solid tumour renal metastasis: case report and review of literature (review). *Am J Kidney Diseases* 1996;27:284.
- 8) Aron M, Nair M, Hemal AK. Renal metastasis from Primary Hepatocellular carcinoma-A case report and review of literature. *Urologia Internationalis* 2004;73,(1):89-91.
- 9) Bennington JC, Beckwith JB. Tumours of the Kidney, renal pelvis and ureter, In *Atlas of Tumour Pathology*. Washington DC, Armed Forces Institute of Pathology, 1975, 2nd edition, p 162.
- 10) Kyaw M, Koehler PR. Renal and perirenal lymphoma: Arteriographic findings: *Radiology* 1969;93:1055.
- 11) Curry NS. Small renal masses (lesions smaller than 3 cm). *Imaging evaluation and management*. *AJR* 1995;164:355.
- 12) Sanzyayo E, Mayayo D, et al. Renal metastasis of hepatocellular carcinoma. *Acta Urol Esp* 2003 May; 27 (5): 387-390.
- 13) Hsu YB, Lee PH, Sep JC et al. Hepatocellular carcinoma with metastasis to kidney: report of a case. *J Formos Med Assoc* 1994;93:71.
- 14) Ohkuma S, Ogasawara T, Kawamura H. Right renal metastasis in a patient with hepatocellular carcinoma. *Nippon Shokakibyō Gakkai Zasshi* 1978;75:746.
- 15) Fukushima M, Isoyama E, Sakaridani N. Renal metastasis originating from liver cancer. *Nippon Hinyokika Gakkai Zasshi* 1996;87:710.

