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# Synchronous Renal Cell Carcinoma and Hepatocellular Carcinoma - A Rare Case Report

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**Abstract:** ***Multiple primary malignancies occurring simultaneously are rare. Even rarer is the concurrence of renal cell carcinoma (RCC) and hepatocellular carcinoma (HCC). A number of theories have been proposed regarding predisposing factors. This case report describes a 64year old male with chronic hepatitis B, a lesion in the right lobe of the liver, and a left renal mass. Synchronous extrahepatic primary malignancies have been reported in a few studies worldwide, but with varying incidences. It is most common in the older age group without gender differentiation.***

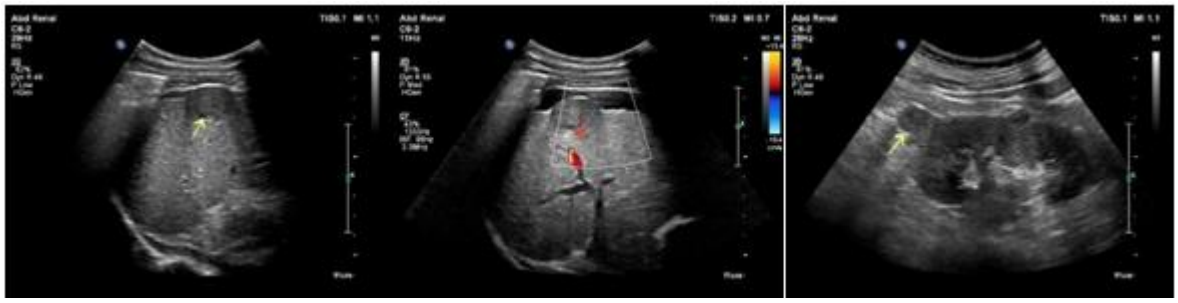
**Keywords:** Hepatocellular carcinoma, Renal cell carcinoma, Synchronous cancers

## 1. Introduction

The coincidence of renal cell carcinoma (RCC) and hepatocellular carcinoma (HCC) is rare, and it is rare in the literature to find case reports of this condition.1 The treatment options for these tumors include partial nephrectomy, radiofrequency ablation (RFA), and cryoablation. HCC patients are increasingly being treated with radiofrequency ablation (RFA), which has been found to be safe and effective for control of local tumor.2-4 As compared to a nephrectomy, these treatment options are less invasive, have a shorter hospital stay, cause less ischemic damage, and can be managed outpatiently.5 In this study we are presenting patient with history of hepatitis B with HCC and RCC spontaneously and was treated with RFA.

## 2. Case Report

A 64-year-old male patient with history of hepatitis B presented with chief complaint of generalised malaise. History of Abdominal and urinary complaints were taken and was found not to be significant. Cancer had never run in the family. Patient was Vitally stable signs on admission. The physical examination did not reveal any abdominal tenderness or abnormal masses. Complete blood count and renal function tests, as well as a urinalysis, were within normal limits. His Sr. albumin was 3 mg/dL, Sr. bilirubin was 3.1 g/dL, and INR was found to be 1.5. Ascites was detected in a moderate amount. According to an abdominal ultrasound, the patient has chronic liver disease as well as a lesion of 1.7*2 cm in the left kidney and a lesion of 2.1*2.3 cm in the right lobe of the liver. CEMRI Abdomen triphasic confirmed an exophytic lesion measuring approximately 1.7*2 cm was noted in upper pole of left kidney showing hypointense signal on T1Wimage and mixed signal intensity predominantly hyperintense on T2W images and showing good contrast enhancement with mild corresponding diffusion restriction on Diffusion weighted images. Left renal artery and vein patent. Liver show significant nodularity and surface irregularity with atrophy and hypertrophy complex. A well defined lesion of size 2.6*2.5cm was noted in segment VII/VIII showing slightly hyperintense signal on T1W images and isointense signal on T2W images with significant arterial enhancement and corresponding washout in portal venous phases. Capsule of lesion is well appropriated on delayed contrast study. Rest of liver shows heterogenous contrast enhancement. Portal vein and hepatic veins are patent. Portal vein was dilated upto 1.3 cm with no evidence of thrombus. No evidence of intrahepatic and extrahepatic biliary duct dilation was seen. In order to treat HCC, transarterial chemoembolization (TACE) was performed. PET-CT did not detect any other significant abnormal hypermetabolic lesion suggesting malignancy. In order to treat HCC and RCC, we used RFAs. There were no significant complications after the procedure.

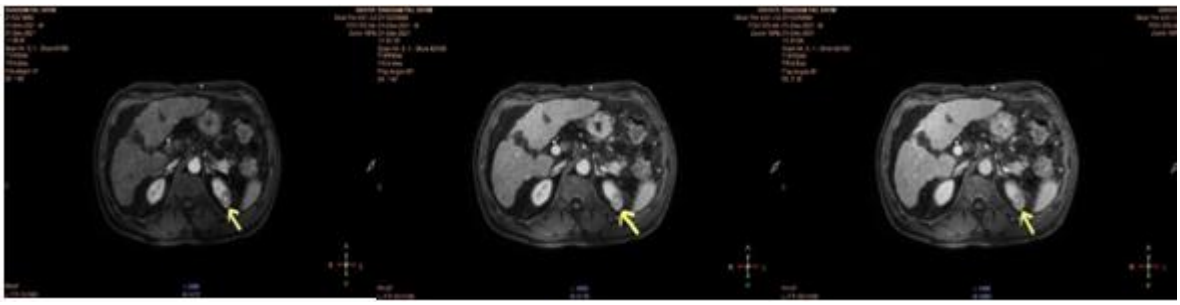


**(A)** **(B)** **(C)**

**Figure 1: (A) USG images** shows well defined lobulated hypoechoic mass in right lobe of liver. **(B)** On colour doppler, mild vascularity was noted. (**C)** A well defined lobulated heterogenous mass in the upper pole of left kidney with central area of necrosis within it.

**(A)** **(B)** **(C)**

**Figure 2: CEMRI Triple phase** showed a lobulated, hypodense mass (arrow) in right lobe of the liver (**A)** that was enhanced vividly in the late **Arterial phase**, **(B**) with equivocal washout in the **portal Phase** and (**C)** 3-minute **delayed phases** Shows washout with clear capsule, suggesting HCC.



**(A)** **(B)** **(C)**

**Figure 3: CEMRI Triple phase** demonstrated a left renal mass (arrow) with heterogenous enhancement with central necrotic component with in the mass in **Arterial phase (**A) and washout in the **venous** (B) and **delayed** (C) phases.

## 3. Discussion

Multiple primary tumors occur in 3.7% of cancer cases, with no significant difference in age between patients who have a single malignant tumor and those who have multiple malignant tumors. Billroth reported the first case of multiple primary malignancies occurring simultaneously in a single patient in 1879. He hypothesized that for multiple primary malignancies each tumor must have a different histological appearance, must arise in different location, and must produce its own metastasis.6 Warren and Gates modified these criteria in 1932, specifying that (1) each tumor must be histologically distinct, (2) each tumor must be a malignancy and (3) tumor that metastasize from another tumor must be excluded.6 Nzeako et al found EHPMs in 74 out of 1349 patients (5.5%) with HCC.7 Sixty five (4.8%) of these patients had one EHPM, seven (0.5%) had two tumors, and one had three and four tumors. A coexisting EHPM and HCC occurred at an older age than those without, with an 11: 1 male-to-female ratio.7 The presence of a coexisting EHPM was more likely in patients with HCC and cirrhosis than noncirrhotic patients with HCC.7 It is extremely rare for HCC and RCC to occur simultaneously in a patient A North American study of 1349 hepatocellular carcinoma patients found ten patients to have a coexisting primary Renal cell carcinoma.7

Research shows that RFA is as effective as nephron-sparing surgery in cT1a Renal cell carcinoma treatment, resulting in similar oncologic outcomes in long term.8The cooling effect of RFA influences the outcome of treatment in a significant way.9 It may be advantageous to use RFA over surgery because it is minimally invasive, preserves the surrounding renal parenchyma, avoids tissue damage to adjacent areas, and reduces complications, resulting in a shorter hospital stay.$1^0$ In liver cirrhosis patients, neither a biopsy of the RCC nor its resection is feasible. For patients with primary or metastatic liver lesions who cannot undergo surgery, RFA has been proven to be a viable option.9

## 4. Conclusion

A longer life expectancy raises the risk of developing multiple malignancies. It is rare for HCC and RCC to occur at the same time. CT and MRI scans can provide a specific diagnosis for HCC and RCC. HCC or RCC with an appropriate indication have been treated with RFA at present. In patients with HCC, the survival rate is not significantly affected by the presence of RCC. The treatment results must be confirmed by regular followups.

## References

[1] Garcia JH, Coelho GR, Cavalcante FP, Valença JT Jr, Brasil IR, CesarBorges G, et al. Synchronous hepatocellular carcinoma and renal cell carcinoma in a liver transplant recipient: a case report. Transplantation 2007; 84: 1713.
[2] Lencioni R. Loco-regional treatment of hepatocellular carcinoma. Hepatology 2010; 52: 762-773.
[3] Guimaraes M, Uflacker R. Locoregional therapy for hepatocellular carcinoma. Clin Liver Dis 2011; 15: 395-421.
[4] Germani G, Pleguezuelo M, Gurusamy K, Meyer T, Isgro G, Burroughs AK. Clinical outcomes of radiofrequency ablation, percutaneous alcohol and acetic acid injection for hepatocelullar carcinoma: a meta-analysis. J Hepatol 2010; 52: 380-388.

[5] Heuer R, Gill IS, Guazzoni G, Kirkali Z, Marberger M, Richie JP, et al. A critical analysis of the actual role of minimally invasive surgery and active surveillance for kidney cancer. Eur Urol 2010; 57: 223-232.
[6] Hu NC, Hsieh SC, Chen TJ, Chang JY (2009) Multiple primary malignancies including colon, stomach, lung, breast, and liver cancer: a case report and literature review. Chin Med J 122: 3091–3093
[7] Nzeako UC, Goodman ZD, Ishak KG. Association of hepatocellular carcinoma in North American patients with extrahepatic primary malignancies. *Cancer*.1994; 74 (10): 2765–2771. doi: 10.1002/1097-0142 (19941115) 74: 10<2765:: aid-cncr2820741005>3.0. co; 2-q
[8] Olweny EO, Park SK, Tan YK, Best SL, Trimmer C, Cadeddu JA. Radiofrequency ablation versus partial nephrectomy in patients with solitary clinical T1a renal cell carcinoma: comparable oncologic outcomes at a minimum of 5 years of follow-up. Eur Urol 2012; 61: 1156-1161.
[9] Goldberg SN, Gazelle GS. Radiofrequency tissue ablation: Physical principles and techniques for increasing coagulation necrosis. Hepatogastroenterology 2001; 48: 359-367.
[10] Hines-Peralta A, Goldberg SN. Review of radiofrequency ablation for renal cell carcinoma. Clin Cancer Res 2004; 10: 6328S-6334S.