

## Case Report

# Multiple primary cancers of liver and kidney complicated with tumor thrombosis in bile duct and portal vein: a case report

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**Abstract:** Multiple primary cancers are usually defined as primary malignant tumors of different histological origins in one person. The present study reports the case of a 58-year-old male patient who was admitted to Tianjin first central hospital with hepatitis B for 20 years and right upper abdominal pain for the latest 2 weeks. Abdominal CT showed the liver cirrhosis, and left liver had a bulky lesions of 10.0 cm \* 8.3 cm, tumor thrombus had formed in the portal vein and left branch, the superior of right kidney had been found a 4.6 cm \* 4.5 cm lesions. Liver function: Child-Pugh grade A; Detection of the Viral Hepatitis B showed: HBsAg (+), HBeAg (+), HBeAb (+) and the AFP was 39962 ng/ml. Under the impression of primary liver cancer, hepatitis B cirrhosis and right renal cell carcinoma; the patient underwent the left semi-hepatectomy and right nephrectomy on January 12, 2010 after a preoperative assessment of liver function. Pathological examination confirmed the diagnosis of hepatocellular carcinoma (Low and medium differentiated) and clear cell renal carcinoma. The patient was discharged 21 days after surgery with normal liver function. One month after initial discharge, the patient underwent chemotherapy with oral Sola Fee-ney for about one month, and Two months later, the treatment of hepatic arterial chemoembolization (TACE) was performed in order to prevent the residual tumor and recurrence of liver resection margin. A follow-up examination of 15 months after surgery revealed that the patient was still alive and had returned to work, with no obvious symptoms or evidence of recurrence.

**Keywords:** Multiple primary cancers, case report

## Introduction

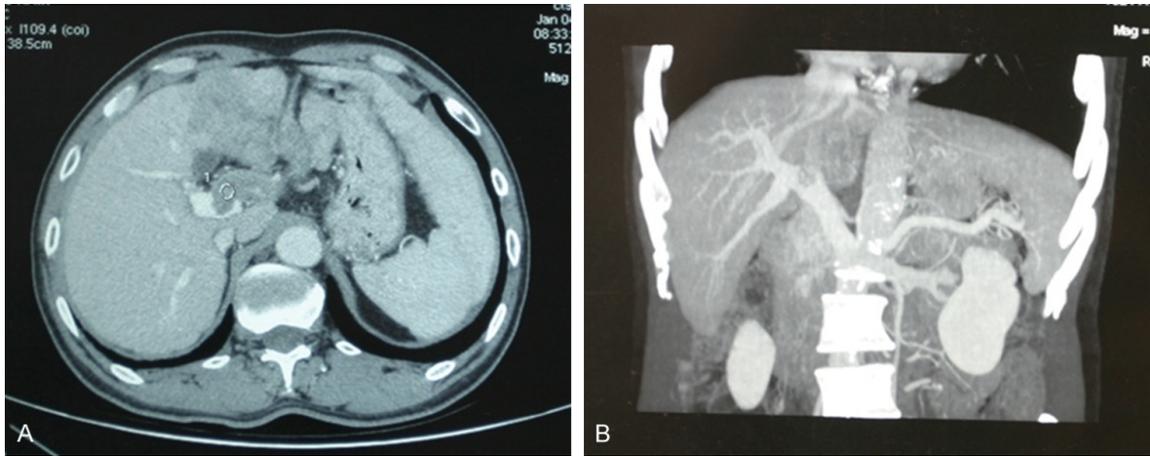
Multiple primary cancers are usually defined as primary malignant tumors of different histological origins in one person. Because of improved diagnostic techniques, diagnosis rate of multiple primary cancers is increasing. As is reported, the prevalence of multiple primary malignancies (MPM) is between 0.73% and 11.7%. Histologically, multiple primary cancers are classified into three subtypes. Type I includes multiple primary cancers occurring in organs with the same histology, Type II is multiple primary cancers that originate from different tissues, while Type III consists of cancers from different tissues and organs that concurrently exist with group I cancers, and they form multiple primary cancer of three or more cancers. In this study, the case of a patient with multiple primary cancers of liver and kidney complicat-

ed with tumor thrombosis in bile duct and portal vein is presented.

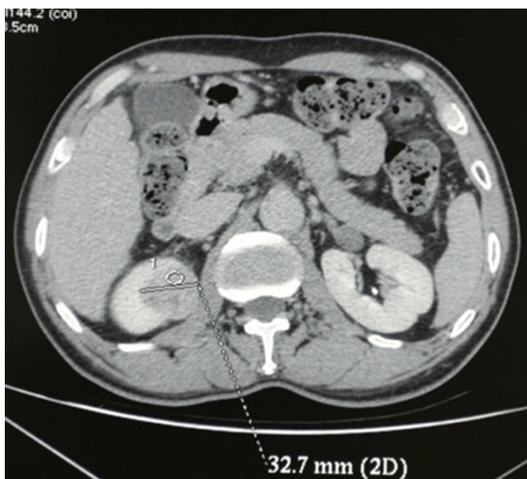
## Case report

A 58-year-old male patient was admitted to Tianjin first central hospital with hepatitis B for 20 years and right upper abdominal pain for the latest 2 weeks on January 7, 2010. Abdominal CT showed the liver cirrhosis, and big solid hepatic lesions of 10.0 cm \* 8.3 cm size in left liver, the tumor thrombus in portal vein and left branch had formed (**Figure 1A, 1B**), the superior of right kidney had been found a 4.6 cm \* 4.5 cm lesions (**Figure 2**). Liver function: Child-Pugh grade A; Detection of the Viral Hepatitis B showed: HBsAg (+), HBeAg (+), HBeAb (+) and the AFP was 39962 ng/ml. Under the impression of primary liver cancer, hepatitis B cirrhosis and right renal cell carcinoma; the patient

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**Figure 1.** A, B: Abdominal CT showed the liver cirrhosis, and big solid hepatic lesions of 10.0 cm \* 8.3 cm size in left liver, the portal vein and left tumor thrombus had formed.

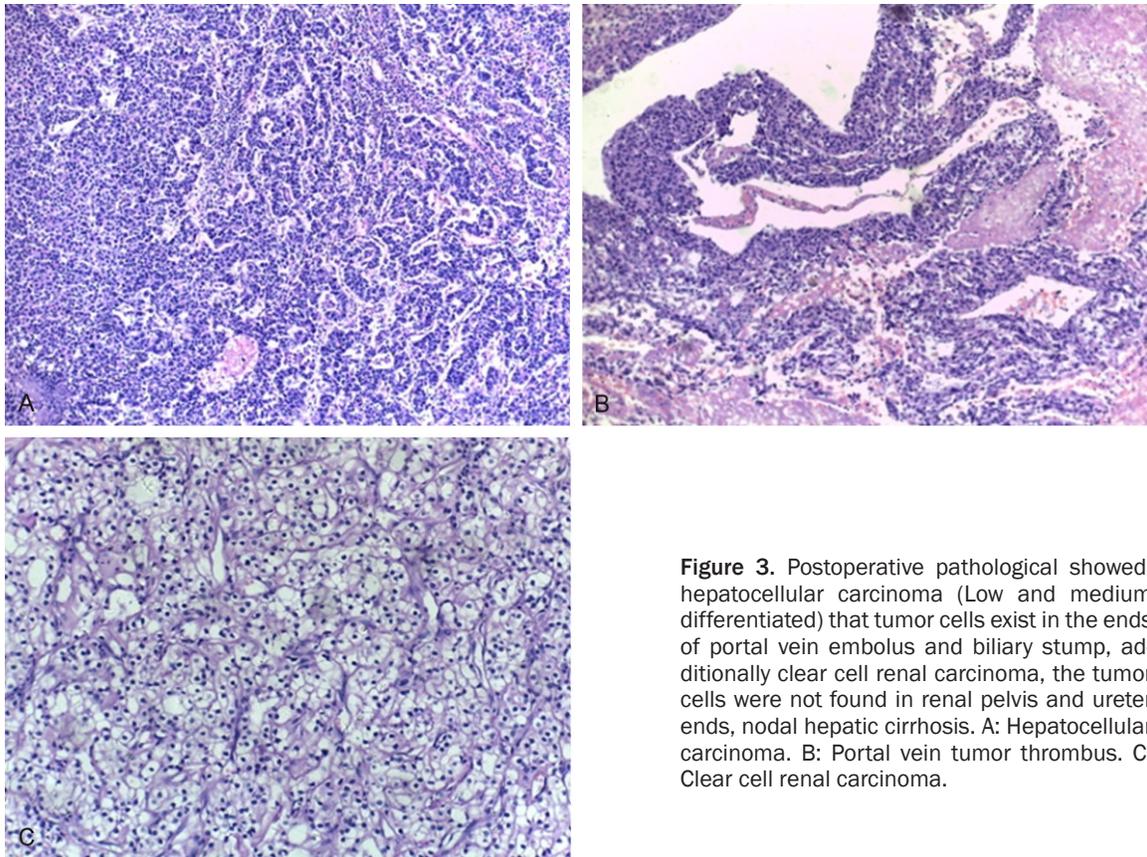


**Figure 2.** Abdominal CT showed the right superior kidney found a 4.6 cm \* 4.5 cm lesions.

underwent the left semi-hepatectomy and right nephrectomy on January 12, 2010 after a pre-operative assessment of liver function. During operation we found the cancer partly invaded the right lobe of the liver, we used an ultrasonic suction knife (CUSA) for separating the liver tissue along the 1~2 cm tumor edge, also retaining the middle hepatic vein. besides, we found that tumor thrombus in the left portal vein and left hepatic duct had extended to the main portal vein and common hepatic duct. As treatments, portal vein and bile duct tumor thrombus at the place where the former is cut off was taken clearly. Intraoperative ultrasonography and cholangiography confirmed that tumor tissues were resected completely and with no residual embolus, then excising right kidney in

the original incision. Postoperative pathological examination showed: hepatocellular carcinoma (Low and medium differentiated) (**Figure 3A**) that Cancer cells exist in the ends of portal vein (**Figure 3B**), biliary residual and embolus; additionally clear cell renal carcinoma (**Figure 3C**), the tumor cells were not found in renal pelvis and ureter ends; nodular hepatic cirrhosis. Immunohistochemical results showed: AFP (+), GPC3 (+), Human Hepatocytes (+), CD34 displaying intensive blood vessels, positive cell number of Ki67 was twenty percent, EGFR ( $\pm$ ), VEGF ( $\pm$ ). The patient was discharged 21 days after surgery, with normal liver function, and the AFP concentration was 2980 ng/ml. One month after initial discharge, the patient underwent chemotherapy with oral Sola Feeney but the drugs were discontinued because of abnormal liver function and gastrointestinal reaction. One and a half months after surgery, AFP value was 462 ng/ml. Two months later, the treatment of hepatic arterial chemoembolization (TACE) was performed in order to prevent the residual tumor and recurrence of liver resection margin. However, this result seemed counter-intuitive, deterioration start with liver function. Immediately, giving the liver protection, gallbladder and nutritional support in the treatment of liver insufficiency, the situation of liver function was getting better. At charged time, the value of AFP was 203 ng/ml. Six months after surgery, AFP turned to be 17.96 ng/ml. A follow-up abdominal CT examination 15 months after surgery revealed that no abnormal enhancement of the liver, portal vein

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**Figure 3.** Postoperative pathological showed: hepatocellular carcinoma (Low and medium differentiated) that tumor cells exist in the ends of portal vein embolus and biliary stump, additionally clear cell renal carcinoma, the tumor cells were not found in renal pelvis and ureter ends, nodal hepatic cirrhosis. A: Hepatocellular carcinoma. B: Portal vein tumor thrombus. C: Clear cell renal carcinoma.

and right branch was unobstructed. especially, AFP, 3.25 ng/ml. liver and kidney function was completely normal.

### Discussion

Multiple primary carcinomas (MPC) refers to two or more primary malignant tumors occurred, simultaneously or successively in the same individual. It accounts for 2%~10% in cancer patients [1]. This situation belongs to a primary carcinoma of the liver and kidney accompanied by the portal vein and bile duct tumor thrombus, which rarely occurs in clinical. Multiple primary cancers, in treatment principle, are distinct from metastatic cancer and recurrent cancer. For the former, majority of the authors tend to agree with the treatment of a single primary carcinoma, radical resection is the first choice; accordingly, the curative effect is similar to the single cancer. While for the latter, non-operative treatments is the best choice. In addition, the study showed that the bile duct cancer was not a late manifestation of primary liver cancer, positive surgical treatment can obtain a more satisfactory cura-

tive effect [2]. According to Japanese guideline, resection is one of the feasible options for treatment in case of minor portal vein involvement (i.e., Vp1 and Vp2). For selected Vp3 or Vp4 patients, surgical resection would still be considered, and a 5-year survival of 18.3% has been reported [3]. In this case, the key point is to ensure the complete removal of tumor tissue, clear tumor thrombus, and as much as possible to retain the normal liver tissue to prevent liver failure. In addition, identifying multiple primary cancer and metastatic cancer has an important clinical significance, because the treatment effect is a significant difference. When cancer patients appear to be the second or third cancer focus, they should not be hasty in the conclusion that they are at the later stage of the cancer recurrence or metastasis, and should be considered the possibility of multiple primary cancers [4]. Moreover, some studies had indicated that in 19.7% cases, cancer embolus could be found in liver tissue that 2 cm away from the cutting edge [5]. Therefore, prevention of postoperative portal vein catheterization chemotherapy or TACE treatment can

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reduce the recurrence and metastasis of the tumor.

Surgical treatment was successfully performed in this case, the result was satisfactory, and the patient has survived. No abnormality was seen in the value of Alpha fetal protein, as well as liver and kidney function. It told us that for massive liver multiple primary cancers, even association with portal vein and bile duct thrombi, as long as half liver can be removed on the basis of preoperative estimation. Supposed residual liver is compensated after tumor resection, we should take an active way to actualize surgical operation. After resection of the primary tumor, completely removed the portal vein or bile duct tumor thrombi, as well as postoperative chemotherapy can prolong the survival of patients.

### Disclosure of conflict of interest

None.

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