

Case Report

Hepatocellular carcinoma in a case of hepatitis C

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Received: 30 April 2017

Accepted: 24 May 2017

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ABSTRACT

Hepatocellular carcinoma has incidence of 90% of all liver cancers. HCC is the second most common hepatic malignancy in children after the hepatoblastomas. Patients with hepatocellular carcinoma presents with symptoms like pruritus, splenomegaly, bleeding oesophageal varices etc. Computed Tomography of the liver can look for local spread and thorax can look for metastases. Our case was a 49-year-old hepatitis C positive female came with vague right upper quadrant abdominal discomfort with weight loss of 7 lbs in last 2 months. Mild icterus was present on examination. CT scan revealed a well-defined iso-dense lesion in the segment V of right lobe of the liver, which shows enhancement in the hepatic arterial phase and rapid washout in the portal venous phase. Laboratory investigations showed abnormal liver function test. The HCV RNA levels were 1.45×10^5 IU/ml by real time PCR. Histopathology examination of biopsy specimen shows characteristic morphological features of steatohepatic variant of hepatocellular carcinoma. Then the patient was referred to the higher center for the further management.

Keywords: CT scan, Hepatocellular carcinoma, Hepatitis C

INTRODUCTION

In most cases, hepatocellular carcinoma develops in patients with chronic liver disease.¹ Hepatocellular carcinoma accounts for 90% of all liver cancers. Tumors are Multifocal in the liver in 75% of cases at diagnosis.² The incidence of primary liver cancer is related to the distribution and the natural history of the hepatitis B and C viruses. The diagnostic sensitivity of AFP for detecting HCC is around 60%. CT of the liver to look for the local spread of the disease and CT thorax to look for metastases. The mainstay of treatment is resection and chemotherapy but many tumours are unresectable at presentation. Prognosis depends on the extent of underlying cirrhosis, as this can limit the treatment

options. Median survival from time of diagnosis is about six months.

CASE REPORT

A 49-years-old female, a known case of hepatitis C related chronic liver disease came with vague right upper quadrant abdominal discomfort at the outpatient department for evaluation and management. She had history weight loss of 7 lbs in last 2 months. There was no complaint of nausea or vomiting. She also denies fatigue or confusion in daily work or tremors, or any abnormal skin changes. On physical examination, mild Icterus was present in both eyes. There was no evidence

of hepato-splenomegaly. She was evaluated at our center for chronic liver disease and investigated accordingly.

Triple phase computerized tomography (CT) of the abdomen showed changes of chronic liver disease with cirrhosis. A well-defined iso-dense lesion was present in the segment V of right lobe of the liver, which shows enhancement in the hepatic arterial phase and rapid washout in the portal venous phase (Figure 1, 2, and 3).

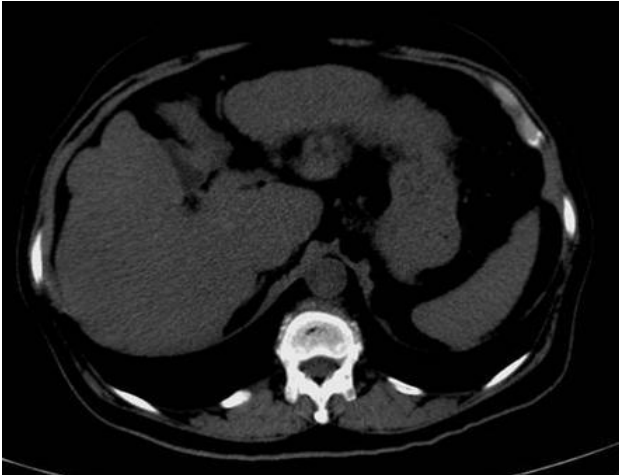


Figure 1: Axial plain CT image of abdomen shows minimal surface irregularity of the liver with a well-defined iso-dense lesion was present in the segment v of right lobe of the liver.

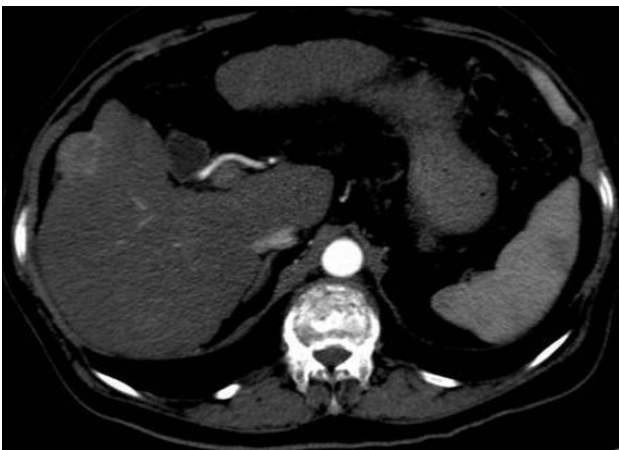


Figure 2: Axial arterial phase of CT image of the abdomen shows a well-defined enhancing lesion was present in the segment v of right lobe of the liver.

Laboratory investigations showed total bilirubin of 1.72 mg/dl, with a direct fraction of 0.78 mg/dl, aspartate aminotransferase level of 126 IU/L, alanine aminotransferase of 85 IU/L, lactate dehydrogenase of 75 IU/L, gamma glutamyl transferase of 56 IU/L, total protein of 7.1 g/dl with an albumin level of 3.7 g/dl. She was detected to be diabetic with fasting glucose of 156 mg/dl and HbA1c 9.59. The HCV RNA levels were 1.45×10^5 IU/ml by real time PCR and the HCV virus

belonged to the third genotype. The serum AFP level was 14.2 ng/ml. Her lipid profile was within normal range. According to Milano criteria for transplant in HCC, she was advised live donor liver transplant (LDLT).



Figure 3: Axial portal venous phase of CT image of the abdomen shows washout of the contrast from the lesion.

Histopathology examination of biopsy specimen showed distortion of the lobular architecture and formation and macro-nodules divided by thin fibrous septa. These septa showed chronic inflammation and lymphoid aggregates. Hepatocytes showed mild macrovascular steatosis, focal areas of ballooning and foci of lobular inflammation. Sections from the tumor nodules showed trabecular and solid pattern. The hepatocytes showed moderate nuclear pleomorphism and a fair amount of cytoplasm, ballooning, large areas showing large droplet macrovascular steatosis and many foci of lobular inflammation. Occasional malignant hepatocyte showed Mallory's hyaline like material. The steatohepatic morphology involved approximately 65 percent of the tumor area. Silver reticulin stain revealed staining in the tumor areas. Based on the characteristic histopathological features a diagnosis of steatohepatic variant of hepatocellular carcinoma was made. Then the patient was referred to the higher center for the further management.

DISCUSSION

In most cases, hepatocellular carcinoma develops in patients with chronic liver disease.¹ Hepatocellular carcinoma accounts for 90% of all liver cancers. Tumors are Multifocal in the liver in 75% of cases at diagnosis.² The incidence of primary liver cancer is largely due to the distribution and the natural history of the hepatitis B and C viruses.³ Worldwide, its prevalence follows that of hepatitis B virus (HBV) and hepatitis C virus (HCV) infection.³ HCC is the second most common hepatic malignancy in children.

Patients with Hepatocellular carcinoma presents with symptoms like pruritus, splenomegaly, bleeding

oesophageal varices, weight loss, jaundice, and hepatic encephalopathy. Abdominal distension present due to ascites. Signs like jaundice, hepatomegaly, ascites, spider naevi, peripheral oedema, anaemia, periumbilical collateral veins, and flapping tremor may be present. Metastases can develop in the lung, portal vein, periportal nodes, bone or brain.

The normal range for AFP (alpha feto protein) is 10-20 ng/mL. The diagnostic sensitivity of AFP for detecting HCC is around 60%. The preferred imaging method for surveillance is ultrasound, which has a sensitivity of 60-80% and specificity of over 90%.¹ A focal liver lesion in someone with cirrhosis is highly likely to be HCC. If a >2 cm mass is detected on ultrasonography and AFP is also raised, this is diagnostic. Further investigation is only needed to determine the best treatment. CT of the liver to look for the local spread and CT of the thorax to look for metastases. Many staging systems have been developed. Those that incorporate the state of liver function and the patient's clinical state (e.g. presence of ascites, portal vein involvement, etc.) as well as the tumour morphology, may be most useful.

The mainstay of treatment is resection and chemotherapy but many tumours are unresectable at presentation. Before treatment of the primary tumour, any complications of cirrhosis must be treated.

Only about 5% of people with hepato cellular carcinoma are suitable for liver transplantation. Resection is the treatment of choice for hepatocellular carcinoma in individuals without cirrhosis.¹ In the short term, resection produces comparable results as transplantation but, at three years, there is a higher chance of tumour-free survival after transplantation. Very good liver function is needed if resection is to be considered. This is because decompensation can occur after surgery. Alcohol

(ethanol) injection, radiofrequency ablation and systemic chemotherapy may be used in advanced disease.

Prognosis depends on the extent of underlying cirrhosis, as this can limit the treatment options. Median survival from time of diagnosis is about six months. Liver failure can occur with death due to cachexia, variceal bleeding and, occasionally, tumour rupture with intraperitoneal bleeding.

CONCLUSION

Hepatocellular carcinoma occurs secondary to the hepatitis B and C viruses infection. The diagnostic sensitivity of AFP for detecting HCC is low. CT of the liver can look for local spread and for metastases. Prognosis depends on the extent of underlying cirrhosis, as this can limit the treatment options.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

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Cite this article as: Suthar PP, Parmar GR, Trivedi C, Vithlani HI. Hepatocellular carcinoma in a case of hepatitis C. *Int J Res Med Sci* 2017;5:3748-50.