Hepatocellular Carcinoma Diagnosed at the Presentation of Cirrhosis

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Introduction

Cirrhosis is an advanced stage of liver fibrosis that can develop as a response to chronic liver injury. Consequences of cirrhosis include impaired hepatocyte function, portal hypertension, and even progression to hepatocellular carcinoma (HCC). We report a patient admitted to the hospital for alcohol withdrawal, who was discovered to have both cirrhosis and hepatocellular carcinoma at the time of presentation.

Case Description

- 36-year-old male presented to the emergency department for concerns of alcohol withdrawal
- Past medical history of obstructive sleep apnea and alcohol use disorder
- Laboratory studies revealed AST 315, ALT 57, Alkaline Phosphatase 137, INR 1.3, and total bilirubin 19.7
- CT of the abdomen and pelvis revealed small volume ascites, and a cirrhotic appearing liver with several indeterminate lesions
- A chronic liver disease panel was unrevealing for other causes of liver disease
- Multiphasic MRI (Figure 1) revealed a 4.1 cm lesion in hepatic segment 3, classified by the Liver Imaging Reporting and Data System (LI-RADS) as a level 5
- Given the MRI findings, the patient was diagnosed with HCC

Figure 1: MRI showing arterial phase hyperenhancement of hepatic lesion (left) and portal venous phase washout (right)

Discussion

- HCC is the most common primary hepatic malignancy
- It is unique in that it can be diagnosed without tissue sampling, based purely on the results of multiphasic CT or MRI
- The tumor receives its vascular source primarily through the hepatic artery, resulting in arterial phase hyperenhancement and washout in the portal venous phase
- The Milan Criteria is utilized to assess the suitability of liver transplant in individuals with cirrhosis and HCC
- This patient fulfilled the Milan Criteria and was placed on the transplant list after a multidisciplinary transplant team evaluation
- Although the probability of developing HCC is higher in males, the overall incidence is 1.5% per year and highest in those over 65
- Our patient is unique in that he presented at a young age, and after a relatively short disease course

Milan Criteria:
1. One tumor ≤ 5cm
2. Up to three tumors each ≤3cm
3. No extra-hepatic involvement
4. No invasion into the vascular system

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