

The evaluation of liver biopsy specimens of chronic hepatitis B patients using early tissue markers for Hepatocellular Carcinoma: Before and after the development of Hepatocellular Carcinoma

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INTRODUCTION: Hepatocellular carcinoma (HCC) is the sixth most common cancer and the third most common cause of cancer deaths. The most important risk factor of HCC is cirrhosis and the most common cause of cirrhosis is chronic hepatitis B (CHB). Early diagnosis in HCC as in other types of cancer, is very important in the treatment approach and prognosis of these patients. Early HCC is a definition used for HCC for describing the curative stage of the disease and for the lesions that are less than 2 cm. We generally aim to diagnose HCC in this level using screening strategies in high risk groups. The diagnostic use of tissue markers such as Glypican-3 (GPC3), Glutamine Synthetase (GS), Heat Shock Protein-70 (HSP-70) and CD 34 has recently suggested in the guidelines to discriminate high-grade dysplastic nodule from early HCC. While in advanced stages of HCC, these markers are diffusely stained, in early HCC it shows only focal staining. The aim of the present study is to delineate whether the aberrations that may take place in patients with advanced fibrosis/cirrhosis can be detected using tissue markers for early HCC without a specific mass / dysplastic nodule development and if detected, is to determine the clinical and laboratory features of these patients.

METHODS: A total of 9587 patients diagnosed with HCC were screened according to the their ICD codes followed in Hacettepe University Faculty of Medicine. A total of 95 HCC patients diagnosed with liver biopsy were identified. Among these 95 patients, the etiology of cirrhosis attributed to chronic hepatitis B(CHB) was selected. The number of patients with CHB was 36. Liver biopsy specimens obtained before and after HCC diagnosis were available for eight patients. Advance fibrosis was described as the fibrosis score was 3 or more according to the ISHAK scoring system. Glutamine synthetase, Heat Shock Protein-70, CD34 and Glipican-3 were used to detect early findings of HCC in these specimens. The description of staining pattern and the degree of the staining of these tissue markers were evaluated by a single experienced pathologist.

CONCLUSION: GS, HSP-70 CD34 ve GPC-3 which are early tissue markers of HCC showed the similar pattern of staining with overt HCC in the same CHB patients with advanced fibrosis years before the diagnosis of HCC. The results of this study may be important to reflect early cellular changes leading to HCC in advanced fibrotic liver and these changes might be traced in CHB patients with advanced fibrosis long time before HCC development. We will further analyse the clinical and laboratory features of these patients to define high risk patients. These are preliminary results of our study and more detailed results will be announced soon hopefully.

Keywords: chronic hepatitis B, early tissue markers, hepatocellular carcinoma