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Validation of plasma proteasome as a tumor biomarker for diagnosis of hepatocellular carcinoma

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Background & Aim: Early diagnosis of Hepatocellular Carcinoma (HCC) improves prognosis. While many studies revealed that alpha-fetoprotein (AFP) is a poor HCC biomarker, more recent studies nominated Plasma Proteasome (PP) as a promising one. So, our aim is to evaluate diagnostic accuracy of PP level as a tumor biomarker for diagnosis of early HCC in Egyptian patients with liver cirrhosis and to validate it on a large population.

Methods: This study enrolled 120 patients with hepatitis C virus related cirrhosis (60 with HCC and 60 without HCC) versus 60 healthy controls. HCC patients were subdivided into 3 groups according to tumor burden. PP level and AFP were assessed. Then, validation of these results on large number of HCC population (308 cases) was done.

Results: It was observed that, 200 ng/ml of AFP showed sensitivity for only 40.1%. On the other hand, AUC of PP was 0.883 (0.829-0.938), with cutoff value of 1.1 µg/ml having sensitivity of 98.3%, and specificity of 71.25%. There was no statistically significant correlation between the level of PP and tumor size, portal invasion or tumor stage (p values = 0.89, 0.07, and 0.82, respectively). Validation of these results on 308 patients yielded sensitivity of 95.12% and specificity of 60%.

Conclusions: PP level could be a promising biomarker for early HCC diagnosis in cirrhotic patients.

Biography

Shahira El-Etreby has done her specialization in Internal Medicine in the year 2006. Currently, she is an Assistant Professor in Hepatology and Gastroenterology, Mansoura University, Egypt.

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