Perspective

Is it time now to stop searching for other tumor markers for HCC apart from alpha-fetoprotein?

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Abstract.

Despite the uncountable amount of tumor markers, no one shows superiority over alpha-fetoprotein. Also, liquid biopsies are used to diagnose HCC but are still under extensive research.

Keywords: hepatocellular carcinoma, alpha-fetoprotein, tumor markers.

Hepatocellular carcinoma (HCC) represents 85–90% of all liver malignancy; it is the fourth leading cause of cancer-related deaths, estimated to be responsible for nearly 9.1% of total death in 2012 **(1).**

AFP is not specific as a commonly used marker for diagnosing hepatocellular carcinoma (HCC). It can be elevated in chronic hepatitis B or C in the absence of cancer. It can also be increased in patients with cholangiocarcinoma and non-liver cancer such as gastric cancer **(2).**

Diagnosis of HCC can be made by radiology and laboratory investigations. Radiological diagnosis mainly depends on ultrasonography, triphasic computerized

tomography (triphasic CT-scan), and dynamic magnetic resonance imaging (dynamic MRI). Ultrasonography (US) is most frequently the first imaging modality used in the evaluation of parenchymal organs of the abdomen due to its relatively low cost, wide availability, and non-invasiveness **(3).**

Also, AFP has low sensitivity, as it may be expected in up to 40% of HCC cases, especially early stages. So, AFP is a marker with poor sensitivity and specificity for diagnosing patients with HCC **(4).** Although it is the most widely used tumor marker for HCC as it is cheap, blood marker has sensitivity and specificity more than other tumor markers.

It's a dilemma; does AFP still a standard marker in the diagnosis and prognosis of HCC, or do we need another marker?

Until now, no other tumor marker showed promising results compared to alpha-fetoprotein.

The American Association for the Study of Liver Diseases (AASLD) guidelines recommended that serum levels of alpha-fetoprotein (AFT) 200 ng/ml may be used instead of fine-needle cytology for diagnosis, especially in patients with liver cirrhosis **(5).**

Nowadays, many tumor markers are used in conjunction with radiology for diagnosing HCC without extra benefit except in limited cases (atypical HCC with a standard or low level of alpha-fetoprotein or cases that did not give the classic picture of HCC during triphasic CT).

Footnotes.

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