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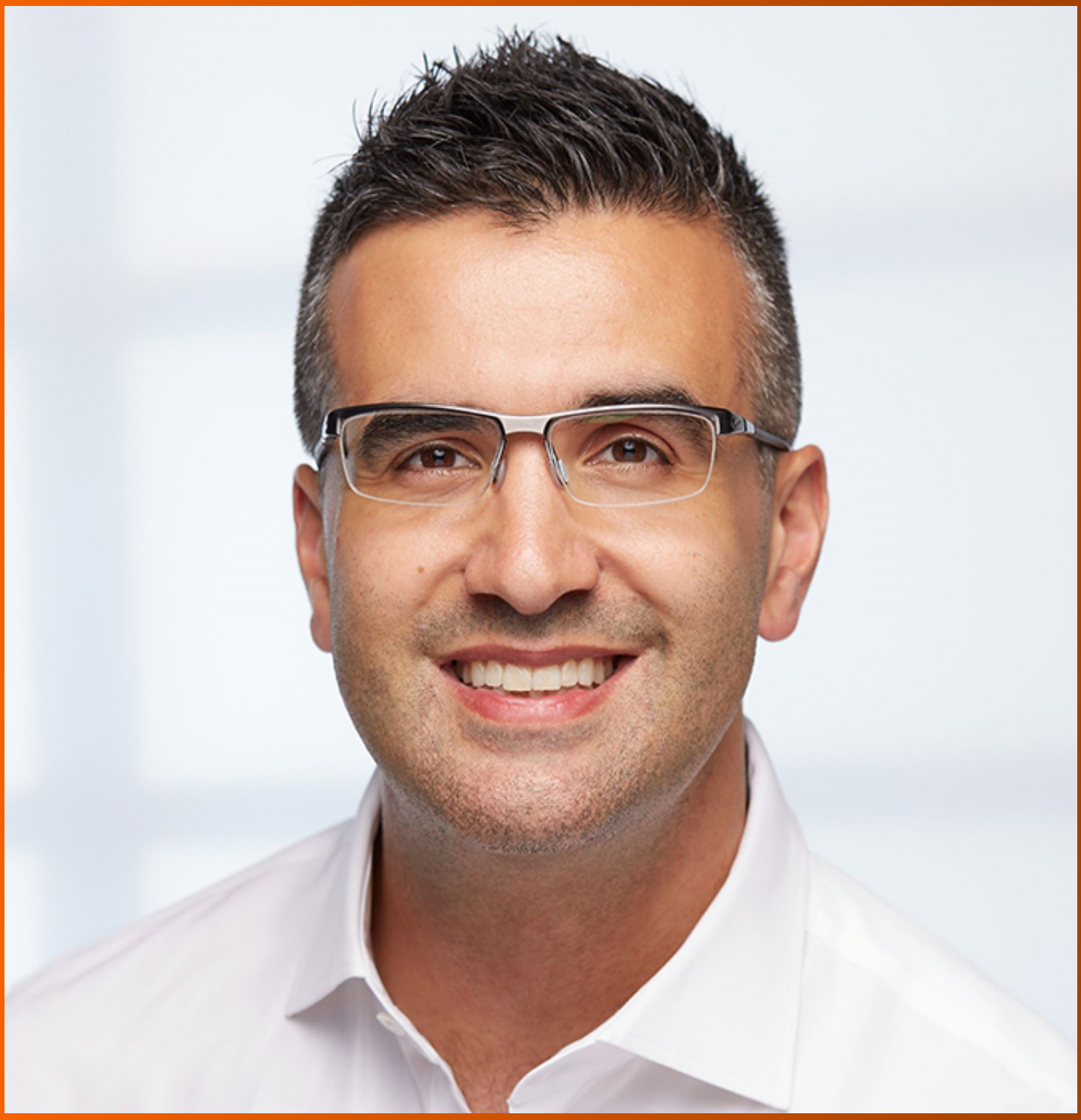

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LETTER TO THE EDITOR

Monitoring of hepatocellular carcinoma

Imen Akkari, Hanen Jaziri

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Abstract

Screening for hepatocellular carcinoma in patients at risk is an evidence-based approach; however, adherence to the monitoring protocol recommended by international guidelines is difficult. Hence, there is a need to use the best screening options and refine the selection of patients at risk in the future.

Key Words: Hepatocellular carcinoma; Cirrhosis; Risk factors; Surveillance; Imaging; Diagnosis

Core Tip: Hepatocellular carcinoma is a public health problem, and the majority of cases occur in patients with cirrhosis. The screening method for this disease has been the subject of several studies. This Editorial discusses the study titled "Hepatocellular carcinoma surveillance: An evidence-based approach" that was published in *World Journal of Gastroenterology* in 2019.

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TO THE EDITOR

We read with great interest the article by Harris *et al*[1] on the surveillance of hepatocellular carcinoma (HCC). We agree with authors' insight that surveillance should be

performed in cirrhotic and high-risk hepatitis B patients to allow for earlier diagnosis of HCC; however, some issues need to be mentioned.

First, according to that study, the use of alpha-fetoprotein (AFP) in addition to ultrasound is thought to improve the sensitivity of HCC detection. Del Poggio *et al*[2] also recommend the use of AFP screening, as it guides the choice between the continuation of standard ultrasound or performing second-level imaging. However, this strategy is not recommended by European guidelines. The increased cost of screening is among the arguments against the addition of AFP[3]. On the other hand, it is well known that AFP has variable sensitivity and specificity according to its level, as altered levels can be noted without relationship to HCC and a high value has been reportedly observed in only 10%-20% of HCC cases in the initial stages[3,4]. Harris *et al*[1] cited another limitation of using this biomarker, namely the need to determine many thresholds depending on the sub-population.

Second, the use of other radiologic modalities for primary screening in obese persons and those with non-alcoholic fatty liver disease[1] seems to be very difficult to apply in real life. In addition to the radiation exposure that occurs with repeated computed tomography examinations, adherence to this screening program is also difficult as these imaging techniques are not easily accessible, particularly in developing countries. Contrast-enhanced ultrasound is a good surveillance option for patients at high risk for HCC[5]. Therefore, Harris *et al*[1] recommend the use of alternative imaging if the standard ultrasound is limited.

Third, Harris *et al*[1] reported that screening for HCC is underutilized in some demographics (non-Caucasian race and low socioeconomic status). In another study, < 2% of patients received guideline-concordant biannual HCC surveillance [6]. This deficiency in the screening program was detailed in the study by Del Poggio *et al*[2]. According to the authors, real-life implementation of screening programs is far from optimal; therefore, a new strategy was proposed to improve the detection of HCC by primary care physicians and involve performing surveillance in a subspecialist setting. The aim of this approach is to improve the results of real-life screening and reduce HCC mortality.

Finally, prediction models of patients at high risk for HCC[7] and artificial intelligence are emerging approaches in medicine that will be an important element in the management of liver diseases. These advances can be useful in screening patients at high risk for HCC development[8]. Refining the selection of patients at risk into sub-groups of very high, moderate, or low risk could improve HCC screening. The use of abdominal computed tomography and magnetic resonance imaging or better contrast-enhanced ultrasound, could serve as alternative methods in the high-risk population.

In summary, rigorous biannual monitoring by standard ultrasound of at-risk patients remains the first-line screening method. Artificial intelligence protocols to predict the development of HCC in at-risk patients could contribute to the selection of patients at high risk requiring a particular monitoring protocol.

FOOTNOTES

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