Hepatocellular Cancer Surveillance in Patients with Advanced Chronic Liver Disease.

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Abstract

BACKGROUND: Patients with advanced chronic liver disease (ACLD) are at high risk of developing hepatocellular carcinoma (HCC). Therefore, biannual surveillance is recommended. This large-scale multicenter study aimed to stratify the risk of HCC development in ACLD.

METHODS: From 3016 patients with ACLD screened in 17 European and Chinese centers, 2340 patients with liver stiffness measurement (LSM) determined using different techniques (two-dimensional shear-wave elastography [2D-SWE], transient elastography, and point shear-wave elastography) and with different disease severities were included. Cox regression was used to explore risk factors for HCC. We used these data to create an algorithm, named PLEASE, but referred to in this manuscript as "the algorithm"; the algorithm was validated in internal and two external cohorts across elastography techniques.

RESULTS: HCC developed in 127 (5.4%) patients during follow-up. LSM by 2D-SWE (hazard ratio: 2.28) was found to be associated with developing HCC, alongside age, sex, etiology, and platelet count (C-index: 0.8428). We thus established the algorithm with applicable cutoffs, assigning a maximum of six points: platelet count less than 150x10(9)/l, LSM greater than or equal to 15 kPa, age greater than or equal to 50 years, male sex, controlled/uncontrolled viral hepatitis, or presence of steatotic liver diseases. Within 2 years, with a median follow-up of 13.7 months, patients in the high-risk group (>/=4 points) had an HCC incidence of 15.6% (95% confidence interval [CI], 12.1% to 18.7%) compared with the low-risk group, at 1.7% (95% CI, 0.9% to 2.5%).

CONCLUSIONS: Our algorithm stratified patients into two groups: those at higher risk of developing HCC and those at lower risk. Our data provide equipoise to test the prospective utility of the algorithm with respect to clinical decisions about screening patients with ACLD for incident HCC.

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