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**Serum biomarker signature in hepatocellular cancer**

El-Serag H, Kanwal F, Ning J, et al. [Serum biomarker signature is predictive of the risk of hepatocellular cancer in patients with cirrhosis](https://gut.bmj.com/content/73/6/1000). Gut 2024; 73: 1000-1007. doi: 10.1136/gutjnl-2024-332034.

Most cases of hepatocellular cancer (HCC) occur in patients with liver cirrhosis. However, most patients with cirrhosis do not develop HCC. Current practice involves routine surveillance of all patients with cirrhosis aiming to detect HCC, there is no targeted method for stratifying risk.

In this study, El-Serag et al., conducted a phase III biomarker study aiming to develop a serum biomarker to predict the risk of developing HCC in patients with liver cirrhosis. They had previously developed a risk stratification model involving demographic, clinical, blood and lifestyle factors but this only demonstrated moderate ability to predict HCC at one and two years follow up. This study followed the PRoBE (Prospective-specimen collection, retrospective-blinded-evaluation) guidance. They evaluated 39 potential biomarkers using samples from 2266 cirrhotic patients from the longitudinal multicentre prospective cohort study, the Texas HCC Consortium (THCCC) to assess a primary outcome of HCC. 126 patients developed HCC during follow up (39.9 months) with an annual incidence rate of 16.6 per 1000 (95% CI 13.8 - 19.8).

Two methods (Stepwise regression and the least absolute shrinkage and selection operator (Lasso)) were used to select a panel of nine biomarkers. The predictive performance was evaluated using C-index 0.67 (95% CI 0.66 - 0.67) and time-dependent AUROC (area under the receiver operating characteristic) improved by 4.8% at 1 year and 2.7% at 2 years when the panel was added to an existing clinical model. El-Serag et al., concluded that their approach represented a step forward in risk stratification for HCC in patients with liver cirrhosis.