Gastrointestinal disease

Risk of HCC falls over time after hepatitis C cure

The incidence of hepatocellular carcinoma (HCC) decreases with time in patients cured of hepatitis C virus (HCV) infection and is lowest in younger patients and in those with compensated cirrhosis, a systematic review and meta-analysis has found.

The authors conducted an extensive literature search for prospective and retrospective studies, with at least 12 months' follow-up, that reported HCC occurrence after HCV cure.

In all the studies included in the meta-analysis cirrhosis was defined using liver biopsy, liver elastography, clinical or imaging features of cirrhosis, and/or a history of hepatic decompensation. F3 fibrosis cohorts were identified using liver biopsy or elastography.

A total of 44 studies were included representing 35,739 patients and 107,548 person-years of follow-up.

- Pooled HCC incidence estimate was 1.7 (95% CI: 1.5-1.9) per 100 person-years
- In patients with cirrhosis HCC incidence was 2.1 (95% CI: 1.9-2.4) per 100 person-years
- In patients with F3 fibrosis HCC incidence was 0.5 (95% CI: 0.3-0.7) per 100 person-years

In a meta-regression analysis of patients with cirrhosis, older age and prior hepatic decompensation were associated with an increased incidence of HCC.

- Older age: adjusted rate ratio [aRR) per 10-year increase in mean/median age: aRR 1.32 (95% CI: 1.00-1.73; P = 0.048)
- Prior hepatic decompensation: aRR per 10% increase in the proportion of patients with prior decompensation: aRR 1.06 (95% CI: 1.01-1.12; P = 0.028)

Longer follow-up after HCV cure was associated with a lower incidence of HCC. Risk of HCC decreased with each additional year of follow-up in patients with cirrhosis.

- aRR per year increase in mean/median follow-up: aRR 0.87 (95% CI: 0.79-0.96; P = 0.007)

Since the introduction of direct-acting antiviral therapy for chronic HCV infection, and its widespread uptake, the number of patients completing HCV treatment with a sustained virologic response has increased dramatically. In the coming years, the majority of patients who have a history of HCV infection encountered in clinical practice will have achieved cure.

However, even after sustained virologic response, there is a residual, though reduced, risk of developing HCC. This study has evaluated the incidence of HCC after HCV cure, among well defined populations of patients with either F3 fibrosis or cirrhosis, with a view to informing decision making about which patients would benefit from long-term surveillance.

In demonstrating a declining HCC risk over time in patients cured of HCV infection, the authors have raised significant questions for patients with cirrhosis, who are currently recommended to have indefinite surveillance after HCV cure.

The study authors conclude: 'Our study provides estimates of HCC incidence after HCV cure among patients with F3 fibrosis (0.5 per 100 person-years) and patients with cirrhosis (2.1 per 100 person-years). We also revealed that HCC risk decreased with each additional year of follow-up after HCV cure in patients with cirrhosis.

'Although surveillance decisions are not based on HCC incidence alone, our results provide valuable data that should inform and refine future HCC surveillance analyses and recommendations.'

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Lockart I, Yeo MGH, Hajarizadeh B et al. HCC incidence after hepatitis C cure among patients with advanced fibrosis or cirrhosis: a meta-analysis. *Hepatology* Published online ahead of print 14 January 2022

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