Impact of Sustained Virologic Response with Direct-Acting Antiviral Treatment on Mortality in Patients with Advanced Liver Disease

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Abstract

The impact of sustained virologic response (SVR) on mortality after direct-acting antiviral (DAA) treatment is not well documented. This study evaluated the impact of DAA-induced SVR on all-cause mortality and on incident hepatocellular carcinoma (HCC) in 15,059 HCV-infected patients with advanced liver disease defined by a FIB-4 >3.25. Overall, 1,067 patients did not achieve SVR (No SVR) and 13,992 patients achieved SVR. In a mean follow-up period of approximately 1.6 years, 195 No SVR patients and 598 SVR patients died. Mortality rates were 12.3 deaths/100 patient years of follow-up for No SVR patients and 2.6 deaths/100 patient years for SVR patients, a 78.9% reduction (p<0.001). Among patients without a prior diagnosis of HCC, 140 No SVR patients and 397 SVR patients were diagnosed with incident HCC. HCC rates were 11.5 HCC/100 patient years for No SVR patients and 1.9 HCC/100 patient years for SVR patients, an 83.5% reduction (p<0.001). In multivariable Cox proportional hazard models controlling for baseline demographics, clinical characteristics and comorbidities, SVR was independently associated with reduced risk of death compared to No SVR (hazard ratio (HR) 0.26, 95% confidence interval (CI) 0.22-0.31, p<0.001). A history of decompensated liver disease (HR 1.57, 95%CI 1.34-1.83, p<0.001) and decreased albumin (HR 2.70 per 1 g/dL decrease 95%CI 2.38-3.12, p<0.001) were independently associated with increased risk of death. Conclusion: Those achieving SVR after DAA treatment had significantly lower all-cause mortality and lower incident HCC rates than those who did not achieve SVR. This article is protected by copyright. All rights reserved.
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