

### Safety concerns with the direct-acting antivirals for hepatitis C

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Simone Strasser's summary of hepatitis C treatment in general practice deserves comment.<sup>1</sup>

Although the rate of sustained virologic response to direct-acting antivirals is impressive, this is only a surrogate. Interferon-based regimens were proven to have efficacy on the rate of progression to cirrhosis and the incidence of hepatocellular carcinoma. Expectation with direct-acting antivirals cannot replace the results of either long-term randomisation on clinically relevant benefits and harms or post-marketing surveillance programs. Indeed, safety concerns are beginning to come to light.<sup>2</sup> Moreover, an unusual occurrence of hepatocellular carcinoma among patients with direct-acting antiviral therapy has been reported.<sup>3</sup> The finding needs more basic data to be analysed but the fourfold increase in serum vascular endothelial growth factor during antiviral therapy is alarming.<sup>4</sup>

Simone Strasser rightly stressed the importance of treating comorbid factors such as alcohol use and obesity in patients with hepatitis C. However, she overlooked the case of smoking,

which is an independent and dose-related cause of hepatocellular carcinoma. In a large European study of patients with hepatocellular carcinoma, the population-attributable fraction for tobacco use was 47.6%. This was more than twice the population-attributable fraction for hepatitis C (at 20.9%), which was the second most attributed risk factor.<sup>5</sup>

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