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### Conflicts of interest

The authors declare no conflicts of interest that pertain to this work.

Please refer to the accompanying ICMJE disclosure forms for further details.

### Authors' contributions

VM, FD, SB, MS: conception of the study, analysis and interpretation of the data, draft of the manuscript. All other members of the Demosthenes group facilitated the study or took care of the reported patients.

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### Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jhep.2021.11.020>.



## Immune-mediated hepatitis with the Moderna vaccine, no longer a coincidence but confirmed

To the Editor:

We have read with interest the recent cases suggesting the possibility of vaccine-induced immune-mediated hepatitis with Pfizer-BioNTech and Moderna mRNA-1273 vaccines for the SARS-CoV-2 virus.<sup>1-7</sup> However, as the cohort of vaccinated individuals against COVID-19 increases, the previously reported cases could not exclude a coincidental development of autoimmune hepatitis, which has an incidence of 3/100,000 population per year.<sup>8</sup> Our case demonstrates conclusive

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evidence of vaccine-induced immune-mediated hepatitis with a rapid onset of liver injury after the first Moderna dose, which on re-exposure led to acute severe autoimmune hepatitis.

### Case description

A 47-year-old Caucasian man, previously completely well, received his 1st Moderna vaccine dose on the 26 April 2021. He noted malaise and jaundice 3 days after. Investigations on the 30<sup>th</sup> April showed serum bilirubin 190 µmol/L (normal 0-20), alanine aminotransferase (ALT) 1,048 U/L (normal 10-49), alkaline phosphatase (ALP) 229 U/L (normal 30-130), albumin 41 g/L (normal 35-50). Blood count, renal function and international normalized ratio (INR) were normal. Liver function tests (LFTs) last checked 4 years previously were normal. He denied