



NEWS BRIEF FOR IMMEDIATE RELEASE

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Journal of Hepatology COVID-19 news brief

Vaccines for COVID-19 are unlikely to cause liver injury; liver transplant patients are likely to suffer from delayed care during the pandemic, new research in the Journal of Hepatology suggests

Amsterdam, March 21, 2022 – Patients with liver disease are particularly vulnerable to the impact of COVID-19. The *Journal of Hepatology*, official journal of [EASL, The European Association for the Study of the Liver](#), published by Elsevier, is committed to updating clinicians and researchers with the latest research and clinical information they need to address the special needs of these patients during the pandemic.

Immune response of COVID-19 vaccinated liver transplant patients is less robust compared to healthy patients

A new study determined for the first time the long-term protection provided by the anti-SARS-CoV-2 mRNA Pfizer-BioNTech vaccine in patients who have undergone liver transplantation (LT). One hundred and forty-three liver transplant patients and 58 healthy patients were tested for SARS-CoV-2 antibodies at the time of vaccination and at one, four and six months after the second dose.

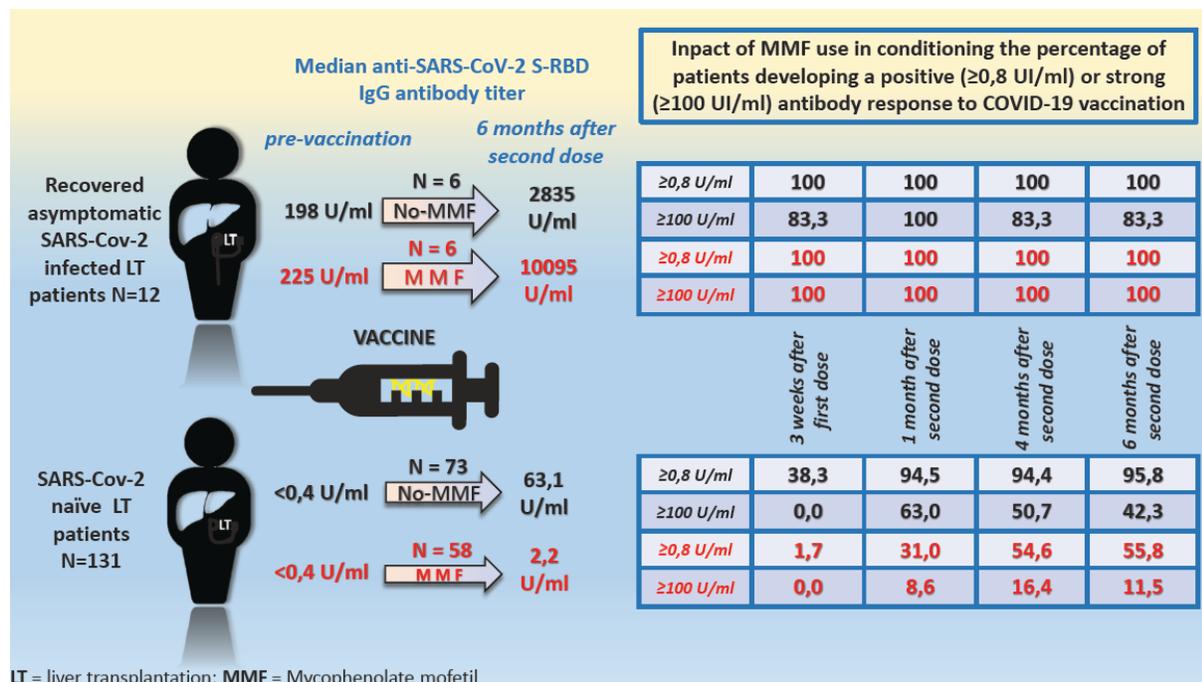
The long-term antibody response to the full course of vaccination was significantly lower in 131 LT patients without prior COVID-19 infection: 78.8% at six months following full vaccination compared to 100% of the healthy patient group.

In contrast, all 12 LT patients who had recovered from a COVID-19 infection presented a full response to the vaccine, which was detectable after the first vaccine dose and was maintained until the sixth month.

LT patients taking a higher daily dose of mycophenolate mofetil (MMF), an immunosuppressive drug, were more likely to have an unsuccessful immune response. In patients who had recovered from COVID-19, MMF dosage had no impact.

Lead investigator Pierluigi Toniutto, MD, Hepatology and Liver Transplantation Unit, Department of Specialized Medicine, Udine University Hospital, Udine, Italy, pointed out that although significantly lower than controls, the antibody rate in LT patients was maintained for at least six months. “One may

hypothesize that modifying the daily dose of MMF in the immediate pre- and post-vaccination period after a booster shot may increase the immunogenicity in COVID-naïve liver transplant patients.”



Caption: For liver transplant patients who had never been infected with COVID-19, taking a higher daily dose of the immunosuppressive drug mycophenolate mofetil reduced the effectiveness of the anti-SARS-CoV-2 mRNA Pfizer-BioNTech vaccine (Credit: *Journal of Hepatology*).

The article is “Past COVID-19 and immunosuppression regimens affect the long-term anti-SARS-CoV-2 vaccination response in liver transplant recipients,” by Pierluigi Toniutto, Edmondo Falletti, Sara Cmet, Annarosa Cussigh, Laura Veneto, Davide Bitetto, Ezio Fornasiere, Elisa Fumolo, Carlo Fabris, Assunta Sartor, Roberto Peressutti, Francesco Curcio, Laura Regattin, and Lucrezia Grillone (<https://doi.org/10.1016/j.jhep.2022.02.015>). Openly available. Author contact: Pierluigi Toniutto at pierluigi.toniutto@uniud.it

Liver transplantation impacted by the first phase of the COVID-19 pandemic, particularly in hard hit countries

A global survey of 128 liver transplant centers found that the COVID-19 pandemic dramatically changed clinical practice. The impacts were felt differently around the world, with particularly detrimental effects in countries badly hit by the pandemic. The survey, organized by The European Association for the Study of Liver Disease, the European Liver and Intestine Transplant Association of the European Society of Organ Transplantation, and the International Liver Transplantation Society, asked the centers about transplant processes, therapy, living donation procedures, and organ procurement from January 1 to July 1, 2020 compared with the same period in 2019.

Most centers postponed transplants with organs from deceased donors at the start of the pandemic, except for patients referred to the centers in severe condition. As expected, countries identified as “hard hit” by the pandemic had fewer patients added to the liver transplant waiting list and fewer liver transplants performed. However, a higher rate of waiting list mortality was observed in countries that were less impacted by the pandemic, and countries with high living transplant activity had more patients added to the waiting list and more transplants performed in 2019 compared to 2020.

The global impact of the first wave of COVID-19 on liver transplant centers: A multi-society survey



Caption: The first wave of the COVID-19 pandemic impacted liver transplantation differently across the world (Credit: EASL-ESOT/ELITA-ILTS).

Lead investigator Francesco Paolo Russo, MD, PhD, Department of Surgery, Oncology and Gastroenterology, University Hospital Padua, Padua, Italy, suggested that this could have been due to severe lockdowns in those regions.

“Although cessation of transplant activity, especially living donation, is prudent during a pandemic, if increased mortality is the result of lockdowns or fear of seeking medical care, a reassessment of how we manage patients with chronic liver disease in a pandemic would be warranted,” noted Dr. Russo.

Observations from this survey may guide how liver transplantation programs handle future waves of the pandemic or other crises in the future. “It is crucial to recognize that the frequency of pandemics has increased over the last 20 years, and it is unlikely that SARS-CoV-2 will be the last global health crisis that we witness,” said Dr. Russo. “Lessons learned could be critical knowledge for the future.”

The article is “Global impact of the first wave of COVID-19 on liver transplant centers: A multi-society survey (EASL-ESOT/ELITA-ILTS),” by Francesco Paolo Russo, Manhal Izzy, Ashwin Rammohan, Varvara A. Kirchner, Tommaso Di Maira, Luca Saverio Belli, Thomas Berg, Marina Carmen Berenguer, and Wojciech Grzegorz Polak (<https://doi.org/10.1016/j.jhep.2021.09.041>). Openly available. Author contact: Francesco Paolo Russo at francescopaolo.russo@unipd.it

New data suggest liver injury following SARS-CoV-2 vaccination is rare and lower than influenza vaccination

A study using electronic medical records from the Indiana University Health Enterprise Data Warehouse found that only a small percentage of individuals receiving SARS-CoV-2 vaccines experience liver damage. This is a rare adverse effect that is associated with other vaccines.

Investigators looked at patients without preexisting liver disease who had received a SARS-CoV-2 vaccine between December 2020 and October 2021. These patients were compared with a control group of patients with no preexisting disease who received an influenza vaccine in 2019. Among 470,274 individuals who had received the SARS-CoV-2 vaccine, 177 individuals (0.038%) experienced liver injury. Sixty percent were female, 90% were white and the average age at first vaccine was 70 years. Compared to the influenza control group, SARS-CoV-2 vaccination had a lower frequency of liver injury after vaccination (0.038% vs. 0.069%).

“Our study adds to the growing body of evidence demonstrating the safety of SARS-CoV-2 vaccination – a lower frequency relative to other vaccines that are the standard of care,” said lead author Naga Chalasani, MD, Department of Medicine, Indiana University School of Medicine, Indianapolis, IN, USA.

The article is “Unexplained liver test elevations after SARS-CoV-2 vaccination,” by John Guardiola, MD; Craig Lammert, MD; Evgenia Teal, MS; and Naga Chalasani, MD (<https://doi.org/10.1016/j.jhep.2022.02.014>). Openly available. Author contacts: Craig Lammert at clammert@iu.edu or Naga Chalasani at nchalasa@iu.edu

Study suggests COVID-19 vaccines are not linked to autoimmune hepatitis, but delayed patient care is a concern

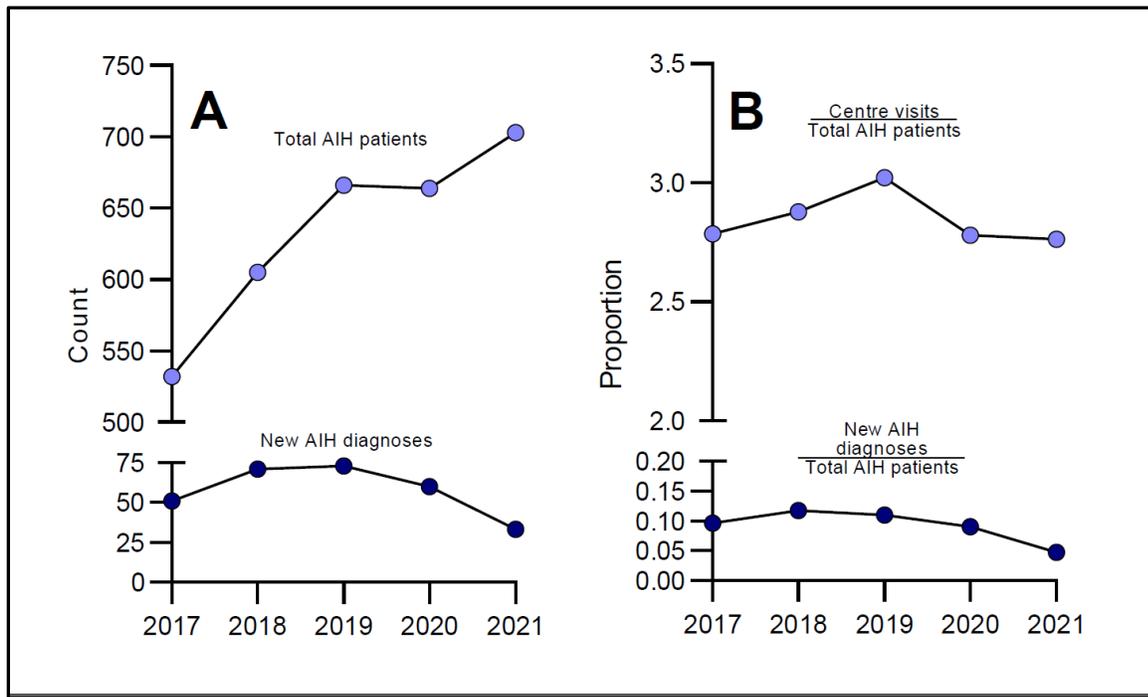
Some studies have suggested a causal relationship between COVID-19 vaccination and the onset of autoimmune hepatitis (AIH), a chronic disease in which the body's own immune system attacks healthy liver cells. Investigators from one of the largest centers in Europe for autoimmune liver disease have found little evidence of this, but their research has raised concerns that patients may be postponing medical care.

From 2017 to 2019, before the pandemic, investigators observed an increase of new AIH diagnoses and an increase of total patients at their center. When COVID-19 pandemic restrictions eased in 2021, the absolute number of patients treated at the center increased, but the proportion of newly diagnosed AIH cases declined considerably.

Lead investigators Darius F. R  ther, MD, MSc, and Jan P. Weltzsch, MD, Department of Internal Medicine, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany, and European Reference Network on Hepatological Diseases (ERN RARE-LIVER), noted that of the patients newly diagnosed with AIH after the pandemic, five were diagnosed within 18 weeks of their vaccination. However, only one patient had no sign of preexisting chronic liver disease.

“Considering that over 90% of the over 70-year-old German population were vaccinated in 2021, this one case is clearly below the rate expected by chance of a temporal coincidence, and the clear drop in the proportion of newly diagnosed cases is a strong indication against any induction of AIH through COVID-19 vaccination.”

However, the authors added that the number of visits per patient at the center had dropped considerably. The decline in new diagnoses and patient visits indicates delayed and likely missed diagnoses. “Patients and referring physicians should be encouraged to seek medical expert advice in rare and complex disease such as AIH in spite of pandemic restrictions,” they suggested.



Caption: Temporal development of autoimmune hepatitis (AIH) patient care at the University Medical Centre Hamburg-Eppendorf before and during the COVID-19 pandemic. (A) Absolute counts of total AIH cases and new AIH diagnoses from 2017-2021. (B) Ratios of individual patient visits per total annual AIH cases as well as new AIH diagnoses per total annual AIH cases from 2017-2021 (Credit: *Journal of Hepatology*).

The article is “Autoimmune hepatitis and COVID-19: No increased risk for AIH after vaccination but reduced care,” by Darius Ferenc R  ther, Jan Philipp Weltzsch, Christoph Schramm, Marcial Sebode, and Ansgar Wilhelm Lohse (<https://doi.org/10.1016/j.jhep.2022.02.013>). Openly available. Author contacts: Darius Ferenc R  ther at d.ruether@uke.de or Jan Philipp Weltzsch at j.weltzsch@uke.de

Notes for editors

These articles appear in the *Journal of Hepatology*, published by [Elsevier](#). The articles are openly available; full text of these articles is also available to credentialed journalists upon request. Contact Vicki Wetherell at +44 1865 843193 or hmsmedia@elsevier.com.

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The *Journal of Hepatology*, the premier journal devoted to liver diseases, is the official journal of the European Association for the Study of the Liver (EASL). It publishes original papers, reviews, case reports, and letters to the Editor concerned with clinical and basic research in the field of hepatology. The journal has a 2020 Impact Factor of 25.083 (Source: Journal Citation Reports™ from Clarivate, 2021). www.journal-of-hepatology.eu

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In the fifty plus years since [EASL](#) was founded, it has grown from a small organization that played host to 70 participants at its first meeting, to becoming the leading international liver association. EASL

attracts the foremost hepatology experts as members and has an impressive track record in promoting research in liver disease, supporting wider education, and promoting changes in European liver policy.

www.easl.eu

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