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CORRESPONDENCE

Coronavirus disease 2019 (COVID-19) vaccination in patients with cirrhosis: Does it work?

To the editor,

We read with interest the paper from Moon et al.[1] They reported a favorable outcome among patients with liver cirrhosis and coronavirus disease 2019 (COVID-19) with at least one prior anti-severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) vaccine dose. In their multicenter cohort, 21 patients with chronic liver disease (19 with cirrhosis) experienced COVID-19 after vaccination. Four of these patients required hospitalization after one Oxford-AstraZeneca dose (1 of them needed intensive care), and 3 patients were hospitalized after a median time of 3 weeks from two vaccine doses (2 patients received Oxford-AstraZeneca and 1 Pfizer-BioNTech); no deaths were reported. They also enrolled a group of 159 unvaccinated patients affected by cirrhosis and COVID-19; 74% of them required hospitalization and 9% died from COVID-19 lung disease. The authors did not report the immunoglobulin G (IgG) anti-SARS-CoV-2 after vaccination; however, they highlighted that antibody titers, along with T-cell responses, can predict protection against SARS-CoV-2. Therefore, we reported our experience with 89 patients before liver transplant (LT), 83% affected by cirrhosis. After a median time of 23 days from complete messenger RNA vaccination, 95% seroconverted with a median IgG value of 1980 binding antibody units (BAU)/mL, range 45–2080 (LIAISON SARS-CoV-2 TrimericS IgG assay, positive value ≥33.8 BAU/mL).[2] The titer decreased by 6-fold after 190 days; nevertheless, none of our patients with cirrhosis became IgG negative or developed COVID-19. Similarly, Thuluvath et al.[3] reported that only 4% of patients with cirrhosis had undetectable IgG anti-SARS-CoV-2 after vaccination, regardless of vaccine type. Finally, Ruether et al.[4] recently described a 98% anti-SARS-CoV-2 IgG-positive rate among 48 patients with cirrhosis and 100% in healthy subjects after two vaccine doses. Despite these reassuring data, neither paper reports the rate of infection after vaccination.[3,4]

These findings about the high rates of humoral response in patients with liver disease (Table 1) together with Moon's evidence of a favorable outcome of COVID-19 after full vaccination in patients with cirrhosis, strengthen the existing recommendations to have patients with cirrhosis vaccinated, especially in the pre-LT setting, considering the low humoral response achievable after transplant. The expected immune response fall after vaccination, as reported in healthy subjects and in our small cohort, might support the essential role of booster doses of the SARS-CoV-2 vaccine in patients with cirrhosis, as already reported in the post-LT setting.

CONFLICT OF INTEREST

Nothing to report.

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[Correction added on 13 May 2022, after first online publication: The article title was revised to include the abbreviation "(COVID-19)".]

TABLE 1 Characteristics and humoral responses of patients with cirrhosis who underwent vaccination against SARS-CoV-2

	Patients with cirrhosis, n	Age (years)	Body mass index (kg/m^2)	Chronic kidney disease	MELD [IQR]	Nonalcoholic steatohepatitis	Hepatocellular carcinoma	Immunosuppression therapy	Vaccine type	Humoral response[a]	T-cell response[b]
Liver Transplant Center, Turin, Italy	74	60	25	7% (eGFR <60 mL/minute)	12 [8–15]	14%	51%	8% steroids 1% azathioprine 1% mycophenolate	95% Pfizer 5% Moderna	95% at 23 days 92% at 68 days	/
Thuluvath et al.[3]	79	64	31	22%	/	42%	/	10% steroid 10% azathioprine 6% mycophenolate	52% Moderna 39% Pfizer 9% Johnson	96% at 41 days	/
Ruether et al.[4]	48	54	26	20% (eGFR <60 mL/minute)	14 [10–19]	8%	10%	/	79% Pfizer 12% Moderna 9% AstraZeneca	98% at 29 days	65% detectable

Abbreviations: eGFR, estimated glomerular filtration rate; IQR, interquartile range; MELD, Model for End-Stage Liver Disease; /, Not available.

[a]Turin Liver Transplant Center (Italy) and Ruether et al.[4]: DiaSorin LIAISON anti-SARS-CoV-2 TrimericS IgG immunoassay (cutoff 33.8 BAU/mL); Thuluvath et al.,[3] Elecsys anti-SARS-CoV-2 semiquantitative assay (cutoff 0.4 U/mL).

[b]EUROIMMUN SARS-CoV-2 interferon-γ release assay (cutoff 100 mUI/mL).

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