

Supplemental Online Content

John BV, Deng Y, Scheinberg A, et al. Association of BNT162b2 mRNA and mRNA-1273 vaccines with COVID-19 infection and hospitalization among patients with cirrhosis. *JAMA Internal Med*. Published online July 13, 2021.
doi:10.1001/jamainternmed.2021.4325

eTable 1. COVID-19 infection, hospitalization for COVID-19 and COVID-19 related death after administration of second dose of Pfizer BNT162b2 mRNA vaccine or Moderna 1273 mRNA vaccine

eTable 2. COVID-19 infection, hospitalization for COVID-19 and COVID-19 related death after administration of first dose of Pfizer BNT162b2 mRNA vaccine or Moderna 1273 mRNA vaccine in patients with decompensated cirrhosis

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eFigure 1. Grid of plots comparing covariates by vaccination status (vaccinated patients and controls)

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1: COVID-19 infection, hospitalization for COVID-19 and COVID-19 related death after administration of second dose of Pfizer BNT162b2 mRNA vaccine or Moderna 1273 mRNA vaccine

COVID-19 infection (N=32)					
Vaccine and Control	Day 0-7		Day 7-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	
# of Event	8	5	3	14	78.6% [25.5%,93.8%] <i>P=0.0154</i>
Cumulative #of Event	8	5	13	19	
No. at Risk	12568	12568	9885	9875	
Cumulative Incidence	0.06%	0.04%	0.13%	0.19%	
Hospitalization for COVID-19 (N=13)					
Vaccine and Control	Day 0-7		Day 7-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	
# of Event	7	4	0	2	100.0% [99.0%,100.0%] <i>P=0.2985</i>
Cumulative #of Event	7	4	7	6	
No. at Risk	12568	12568	9885	9875	
Cumulative Incidence	0.06%	0.03%	0.07%	0.06%	
COVID19 related Death (N=3)					
Vaccine and Control	Day 0-7		Day 7-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	
# of Event	1	1	0	1	100.0% [99.0%,100.0%] <i>P=0.2986</i>
Cumulative #of Event	1	1	1	2	
No. at Risk	12568	12568	9885	9875	
Cumulative Incidence	0.01%	0.01%	0.01%	0.02%	

eTable 2: COVID-19 infection, hospitalization for COVID-19 and COVID-19 related death after administration of first dose of Pfizer BNT162b2 mRNA vaccine or Moderna 1273 mRNA vaccine in patients with decompensated cirrhosis

COVID-19 infection (N=36)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Day 28 onwards
# of Event	4	3	4	8	7	2	2	3	1	2	50.3% [4.9%,100.0%] <i>P=0.5680</i>
Cumulative #of Event	4	3	8	11	15	13	17	16	18	18	
No. at Risk	3142	3142	2848	2837	2512	2495	2145	2132	1866	1855	
Cumulative Incidence	0.13%	0.10%	0.28%	0.39%	0.60%	0.52%	0.79%	0.75%	0.96%	0.97%	
Hospitalization for COVID-19 (N=13)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Day 28 onwards
# of Event	0	1	2	2	2	0	3	2	0	1	100.0% [98.7%,100.0%] <i>P=0.4987</i>
Cumulative #of Event	0	1	2	3	4	3	7	5	7	6	
No. at Risk	3142	3142	2848	2837	2512	2495	2145	2132	1866	1855	
Cumulative Incidence	0.00%	0.03%	0.07%	0.11%	0.16%	0.12%	0.33%	0.23%	0.38%	0.32%	
COVID19 related Death (N=4)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Day 28 onwards
# of Event	0	1	1	0	0	0	1	0	0	1	100.0% [98.7%,100.0%] <i>P=0.4987</i>
Cumulative #of Event	0	1	1	1	1	1	2	1	2	2	
No. at Risk	3142	3142	2848	2837	2512	2495	2145	2132	1866	1855	
Cumulative Incidence	0.00%	0.03%	0.04%	0.04%	0.04%	0.04%	0.09%	0.05%	0.11%	0.11%	

eTable 3: COVID-19 infection, hospitalization for COVID-19 and COVID-19 related death after administration of first dose of Pfizer BNT162b2 mRNA vaccine or Moderna 1273 mRNA vaccine in patients with compensated cirrhosis

COVID-19 infection (N=152)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	
# of Event	21	33	17	24	10	10	12	5	5	15	66.8% [8.6%,87.9%] P=0.0328
Cumulative #of Event	21	33	38	57	48	67	60	72	65	87	
No. at Risk	16895	16895	15261	15236	13479	13440	11586	11546	10193	10157	
Cumulative Incidence	0.12%	0.20%	0.25%	0.37%	0.36%	0.50%	0.52%	0.62%	0.64%	0.86%	
Hospitalization for COVID-19 (N=44)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	
# of Event	4	7	6	5	4	5	7	4	0	2	100.0% [99.0%,100.0%]
Cumulative #of Event	4	7	10	12	14	17	21	21	21	23	
No. at Risk	16895	16895	15261	15236	13479	13440	11586	11546	10193	10157	
Cumulative Incidence	0.02%	0.04%	0.07%	0.08%	0.10%	0.13%	0.18%	0.18%	0.21%	0.23%	
COVID19 related Death (N=9)											
Vaccine and Control	Day 0-7		Day 7-14		Day 14-21		Day 21-28		Day 28-onwards		Vaccine efficacy Day 28 onwards
	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	Vaccine	Control	
# of Event	1	2	1	1	0	2	0	1	0	1	100.0% [98.7%,100.0%]
Cumulative #of Event	1	2	2	3	2	5	2	6	2	7	
No. at Risk	16895	16895	15261	15236	13479	13440	11586	11546	10193	10157	
Cumulative Incidence	0.01%	0.01%	0.01%	0.02%	0.01%	0.04%	0.02%	0.05%	0.02%	0.07%	

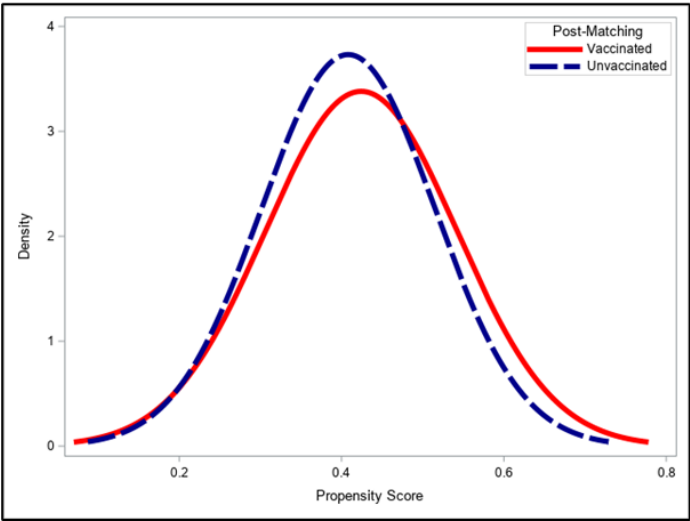
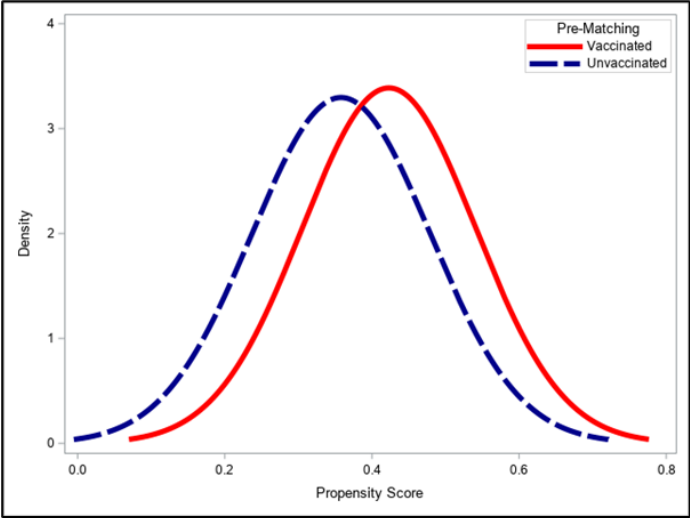
eTable 4: Multivariable hazard ratios for the risk of COVID-19 infection or death in patients with cirrhosis, compensated cirrhosis and decompensated cirrhosis, comparing subjects who received COVID-19 mRNA vaccine and controls

Variable	All		Compensated Cirrhosis		Decompensated Cirrhosis	
	aHR (95% CI)	<i>P Value</i>	aHR (95% CI)	<i>P Value</i>	aHR (95% CI)	<i>P Value</i>
Group						
Control	REF		REF		REF	
Vaccine	0.75 (0.61,0.93)	0.0081	0.69 (0.54,0.89)	0.0048	0.90 (0.62,1.30)	0.5738
Age	1.03 (1.02,1.05)	0.0002	1.03 (1.01,1.05)	0.0080	1.03 (1.01,1.06)	0.0119
BMI	1.01 (0.99,1.03)	0.2044	1.02 (1.00,1.04)	0.0198	1.00 (0.95,1.01)	0.1903
Diabetes						
No	REF		REF		REF	
Yes	1.47 (1.17,1.85)	0.0010	1.37 (1.04,1.80)	0.0266	1.79 (1.18,2.71)	0.0061
Tobacco Use						
Never Smoker	REF		REF		REF	
Current Smoker	1.25 (0.96,1.63)	0.1009	1.36 (0.98,1.89)	0.0637	1.06 (0.66,1.69)	0.8132
Former Smoker	1.11 (0.85,1.44)	0.4458	1.21 (0.87,1.67)	0.2588	1.17 (0.59,1.45)	0.7257
AUDIT-C Score						
Low	REF		REF		REF	
High	1.08 (0.83,1.40)	0.5876	1.15 (0.84,1.57)	0.3973	1.92 (0.56,1.51)	0.7317
MELD-Na	1.06 (1.05,1.07)	<.0001	1.06 (1.04,1.08)	<.0001	1.03 (1.01,1.06)	0.0036

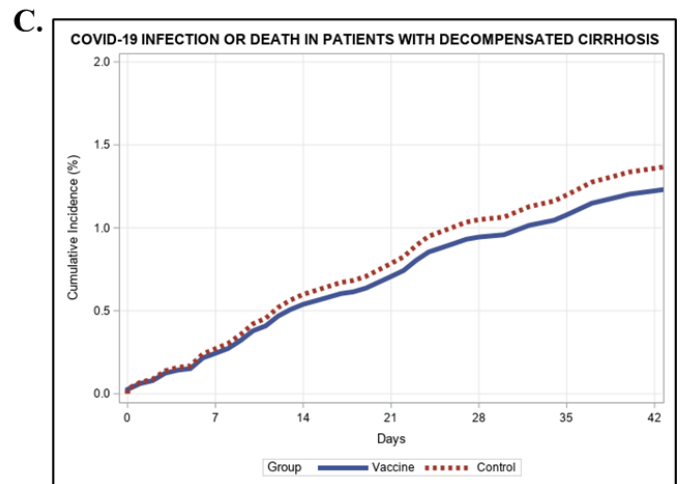
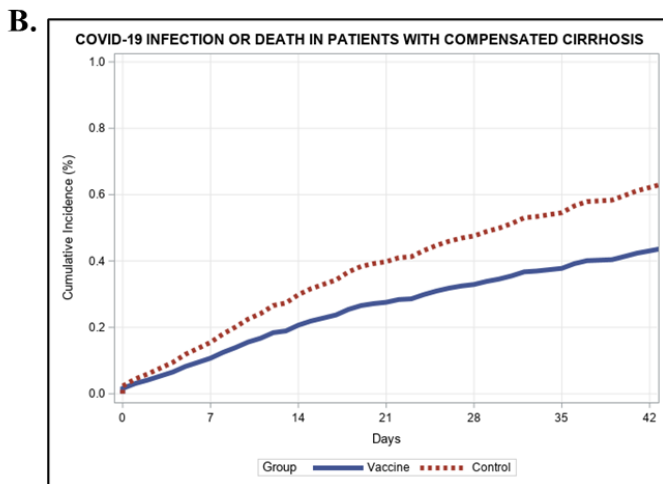
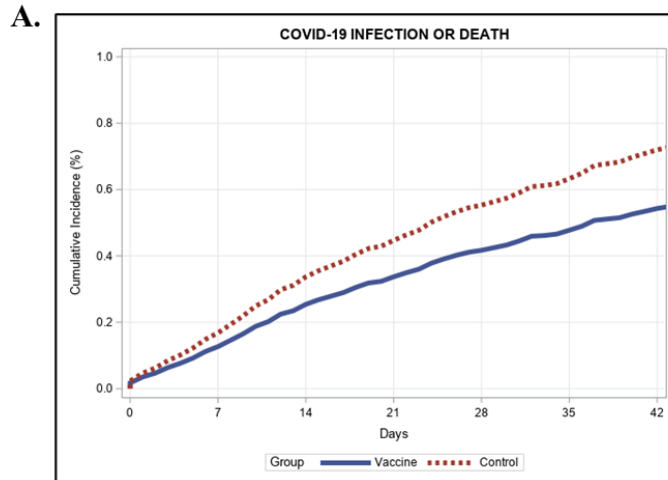
eTable 5: Multivariable hazard ratios for the risk of COVID-19 infection or death in women, comparing patients who received COVID-19 mRNA vaccine and controls

Variable	All	
	aHR (95% CI)	P Value
Group		
Control	REF	
Vaccine	0.53 (0.10,2.89)	0.4627
Age	1.01 (0.94,1.05)	0.6392
BMI	1.07 (0.97,1.17)	0.1887
Diabetes		
No	REF	
Yes	1.36 (0.02,2.59)	0.7889
Tobacco Use		
Never Smoker	REF	
Current Smoker	1.41 (0.41,4.44)	0.4750
Former Smoker	1.78 (0.32,9.98)	0.5148
AUDIT-C Score		
Low	REF	
High	1.31 (0.15,11.21)	0.8031
MELD-Na	1.03 (0.96,1.10)	0.4046

Note: 1144 women included in the study had a total of 6 events (COVID-19 infection or death).



eFigure 1: Grid of plots comparing covariates by vaccination status (vaccinated patients and controls)



eFigure 2: Adjusted time from receipt of first dose of mRNA Vaccine and COVID-19 infection or death in patients with cirrhosis (panel A), compensated (panel B) and decompensated (panel C) cirrhosis