

New Portal Vein Thrombosis in Cirrhosis - is the Thrombophilia Exacerbated due to Vaccine or COVID-19?



To the Editor,

Portal vein thrombosis (PVT), defined as thrombosis of the main portal vein (PV), or its branches or the splenic vein (SV) or superior mesenteric vein (SMV) of the spleno-portal axis, is a well-known complication of the hypercoagulable state of cirrhosis.¹ However, thrombosis of deep veins, pulmonary microcirculation, and arterial thrombosis has also been reported as a consequence of COVID-19 infection or vaccination.² The post-COVID-19 thrombophilia is of great relevance in hepatology practice as it predisposes to PVT related increased portal pressures and variceal bleeding, hepatic venous outflow tract obstruction, or post-transplant vascular complications.³

Herein we report six cases of new-onset PVT, who were on hepatocellular carcinoma (HCC) surveillance imaging and were diagnosed with new main PVT or branch PVT following COVID 19 infection in three cases and following vaccination with ChAdOx1 nCoV-19 Coronavirus vaccine (recombinant) in three cases. The surveillance protocol at our institute is based on Ultrasound Doppler imaging every 3 months and a semi-annual triple computed tomography (CT) or magnetic resonance imaging (MRI). All 6 patients had confirmed PVT on either CT or MRI (Table 1). The mean time since the last screening imaging was 95 ± 22.5 days.

Table 1 Clinical Characteristics of the 6 Patients Who Presented with New Onset PVT.

Patient Details	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age (Years)	38	45	53	55	56	48
Sex	Male	Male	Male	Female	Female	Male
Etiology of Liver Disease	Ethanol	Ethanol	Ethanol	HCV	NAFLD	NAFLD
Co morbidity	None	Hypertension	None	None	Diabetes mellitus	Diabetes mellitus
COVID19 Infection	Yes	Yes	No	Yes	Yes	No
Severity of COVID-infection	Mild	Moderate (Oxygen requiring)		Moderate (Oxygen requiring)	Mild	
Vaccination	No	No	Yes	Yes	No	Yes
Number of doses received			1	1		2
Use of anticoagulation in the last 6 months	No	No	No	Yes. 5 days of LMW heparin.	No	No
Use of Steroids in the last 6 months	No	No	No	No	Yes	No
Time period between COVID19 to detection of PVT (Days)	70	90	NA	90	60	NA
Time period between COVID19 vaccination to detection of PVT (Days)	NA	NA	110	60	NA	90

(Continued)

Abbreviations: COVID-19: Coronavirus disease-2019; PVT: Portal Vein Thrombosis

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