Supplementary Materials

Local and systemic thrombotic complications in cirrhotic patients with hepatocellular carcinoma

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Supplementary Table 1. Risk Factors associated with PVT occurrence in patients with cirrhotic patients

Author, Years	Type of study	Patients with Liver Disease (n)	PVT	Risk Factor
Nonami *et al.*,1992[48]	Retrospective study (1989-1990)	849 patients who underwent LT (87 HCC and cirrhosis, 47 HCC without cirrhosis) 401	HCC (+) incidence 34.8% *vs.* HCC without cirrhosis incidence 8.5%, Post necrotic cirrhosis	Encephalopathy $P < 0.02$ Ascites $P < 0.005$ Gastrointestinal bleeding < 0.001 Previous splenectomy < 0.01

		cirrhosis	incidence 15.7%	
Davidson *et al.*,1994[49]	Prospective study (1988-1992)	132 patients who underwent OLTx (12 cryptogenic cirrhosis, 22 cirrhosis and HCC, 5 autoimmune hepatitis)	Cirrhosis + HCC incidence (6/22 27.3%) *vs.* Cirrhosis incidence (10/110 9.1%)	Autoimmune chronic active hepatitis χ2:13.3, $P < 0.001$ Cryptogenic cirrhosis χ2:7.2, $P < 0.01$ HCC χ2:5.7, P <0.05
Ravaioli *et al.*,2011[50]	Retrospective study (1998-2008)	889 patients LT candidates (282 with HCC)	HCC (+) incidence 37/282 13%	HCC significantly associated with PVT risk at multivariate analysis (HR = 1.81, $P < 0.05$)
Zanetto *et al.*, 2017[20]	Prospective study (2012-2013) follow-up 1 year	41 patients with cirrhosis and HCC (CHILD A/B/C 20/12/9) 35 patients with non HCC cirrhosis (CHILD	HCC (+) incidence 10/41 24.4% vs HCC (-) incidence 4/35 11.4%	HCC(+) HR: 10.34, P = 0.03 Thromboelastogram: Maximum Clot Firmness (MCF* > 25 mm), HR = 6, P = 0.001

		A/B/C 9/17/9)		
Cagin *et al.*, 2016[51]	Retrospective study (2009-2014)	461 patients with cirrhosis: HCC + 69 (15%), HCC- 392 (85%)	HCC (+) prevalence (13/69 18.8%), HCC (-) (32/392 8.2%)	HCC significantly associated with PVT $P <$ 0.001
Serag *et al.*, 2020[52]	Prospective study (follow-up 1 year)	44 patients with cirrhosis + HCC (CHILD A/B/C 12/20/12) 47 patients with cirrhosis (CHILD A/B/C 14/18/14)	HCC (+) incidence (10/44 22.7%); HCC(-) incidence (6/47 12.7%)	Differences between PVT (+) and PVT (-) in all cirrhosis with and without HCC: In cirrhosis with HCC Annexin A5/PS + MP ratio $P < 0.001$ PS + MPs $P < 0.001$ Portal flow velocity $P <$ 0.001 **
Faccia *et al.*, 2022[38]	Retrospective study (1982-2017)	7,445 hospitalized cirrhotic patients (HCC+ 1,524)	HCC (+) prevalence (162/1524 10.6%); HCC (-) prevalence (220/5921	(multivariate logistic regression analyses) Endoscopic signs of portal hypertension OR = 1.33, P = 0.02 Hepatic encephalopathy OR = 13.98, $P < 0.0001$

			3.7%)	HCC OR 4.59, *P*< 0.0001 Diabetes OR = 1.68, *P* = 0.0001 Abdominal surgery/invasive procedure OR = 2.03, *P* < 0.0001
Senzolo *et al.*, 2023[44]	Retrospective study	750 cirrhotic HCC patients	88/750 PVT at diagnosis	(multivariate analyses of the occurrence of PVT at HCC diagnosis) Pre-treatment total tumor volume (*P* < 0.001) Clinically significant portal hypertension (*P* = 0.005)

* Maximum Clot Firmness (MCF) is the maximum amplitude in millimeters reached in the thromboelastogram. MCF > 25 mm was associated with a 5-fold increased PVT risk [RR: 4.8 (2–11.3), *P* = 0.0001]; ** Cut off HCC (+): Annexin A5/MP ratio < 0,0277; PS + MPs > 38.7 nm/L, Portal flow velocity < 15 cm/sec; Cut off HCC (-): Annexin A5/MP ratio < 0,0028; PS + MPs > 35.3 nm/L, Portal flow velocity < 15 cm/sec. PVT: portal vein thrombosis; LT: liver transplant; MCF: maximum clot firmness; HCC: hepatocellular carcinoma; HR: hazard ratio.