

## POSTER Hepatitis and Liver Diseases

# P 78 Trends in the prevalence and epidemiological characteristics of HDV infection in HBsAg+ persons with or without HIV in Italy: is HIV still a key factor for HDV coinfection?

### Authors

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### ABSTRACT

**Background:** HIV infection is often associated with hepatitis D virus (HDV) in HBsAg-positive individuals due to shared transmission routes, such as injection drug use (IDU) and unprotected sex. However, most available data come from historical cohorts of people with HIV (PWH), and recent trends in HDV prevalence and epidemiological characteristics among HBsAg-positive PWH compared to HIV-negative individuals remain unclear.

**Materials and Methods:** We conducted two cross-sectional analyses assessing HDV prevalence and epidemiological characteristics among HBsAg-positive PWH tested for anti-HDV in the ICONA cohort in 2009–2012 (n=257) and 2019–2023 (n=289). These data were compared with two cohorts of HIV-negative HBsAg-positive individuals: MASTER (n=1938, enrolled in 2009–2012) and PITER (n=3813, enrolled in 2019–2023). Descriptive statistics were used to compare continuous and categorical variables.

**Results:** In 2009–2012, anti-HDV prevalence was 19% in ICONA vs. 8.3% in MASTER (p<0.01). Among PWH, 20.0% reported IDU. Compared to HIV-negative individuals, HBsAg/anti-HDV-positive PWH had a similar median age (48 vs. 47 years), but a higher proportion of males (89.8% vs. 64.6%) and Italians (89.8% vs. 63.4%). HBeAg prevalence was higher in PWH (23.5% vs. 14.4%), as was HCVAb positivity (67.3% vs. 19.7%) and NUC therapy use (85.7% vs. 26.7%). The proportion of patients with FIB-4 > 3.25 was similar (35.4% vs. 34.2%, p=0.928) [Table 1].

In 2019–2023, anti-HDV prevalence was 12.5% in ICONA and 11.8% in PITER (p=0.729). The proportion of IDU among PWH decreased to 11.8%. Demographic and clinical differences between HIV-positive and HIV-negative individuals remained similar. The proportion of patients with FIB-4 > 3.25 was lower in PWH (20.0% vs. 42.0%, p<0.01) [Table 2].

**Conclusion:** Over time, anti-HDV prevalence among HBsAg-positive PWH has declined, now aligning with HIV-negative individuals. The reduction in IDU among PWH may have contributed to the decreasing prevalence of HDV.

Although the cross-sectional design prevents establishing causality between HIV co-infection and liver disease severity, factors such as competing mortality and cirrhosis progression in PWH observed in 2009–2012, may have influenced the differences in liver disease severity over time.

Table 1. Demographic and	clinical	characteristics	of HDVAb	pos individuals
in period <u>2009-2012</u>				

	HIV/HBV (ICONA)	HBV mono (MASTER)	Total	р
N	49 (23.3%)	161 (76.7%)	210 (100.0%)	
Sex, Males, n(%)	44 (89.8%)	104 (64.6%)	148 (70.5%)	< 0.001
Age, years, median [IQR]	48.0 [45.0 52.0]	47.0 [38.0 55.0]	47.0 [40.0 54.0]	0.263
Area of birth, (%)				
Africa	2 (4.1%)	6 (3.7%)	8 (3.8%)	< 0.001
America	2 (4.1%)	1 (0.6%)	3 (1.4%)	
Asia	1 (2.0%)	2 (1.2%)	3 (1.4%)	
Europe central/west	0 (0.0%)	1 (0.6%)	1 (0.5%)	
Europe East	0 (0.0%)	49 (30.4%)	49 (23.3%)	
Italy	44 (89,8%)	102 (63.4%)	146 (69.5%)	
Alcohol use, n(%)				
No	23 (46.9%)	97 (60.2%)	120 (57.1%)	0.165
Yes	21 (42.9%)	46 (28,6%)	67 (31.9%)	
Unknown	5 (10,2%)	18 (11,2%)	23 (11.0%)	
Cirrhosis, n(%)	25 (52.1%)	95 (59.0%)	120 (57,4%)	0.395
Platlets, x 10°/L, median (IOR)	153.5 [90.5 201.5]	142.5 [100.0 197.0]	143.5 [97.0 198.0]	0.658
<150	23 (47.9%)	79 (52.7%)	102 (51.5%)	0.567
FIB-4, median [IQR]	1.9 [1.2 4.5]	2.1 [1.3 4.4]	2.1 [1.2 4.4]	0.241
1.45-	16 (33,3%)	46 (31,5%)	62 (32.0%)	0.928
1.45-3.25	15 (31,2%)	50 (34, 2%)	65 (33, 5%)	
3.25+	17 (35, 4%)	50 (34, 2%)	67 (34 5%)	
HBeAb. n(%)	(			
Negative	12 (35, 3%)	18 (12, 2%)	30 (16.5%)	0.001
Positive	22 (64 7%)	130 (87,8%)	152 (83 5%)	
HBeAg p(%)		100 (011010)	100 (001010)	
Negative	26 (76 5%)	125 (85,6%)	151 (83 996)	0 191
Positive	8 (23, 5%)	21 (14 496)	29 (16, 196)	0.101
HBV-DNA p(%)	a (mana ray	2. (	no (ronny)	
Negative	28 (57 196)	57 (35 496)	85 (40 596)	<0.001
Positive	11 (22 496)	94 (58 496)	105 (50 0%)	-0.001
Not-tested	10 (20, 4%)	10 (6 296)	20 (9 5%)	
HBV-DNA n(%)	10 (20.470)	10 (0.2.90)	20 (0.030)	
Negative	28 (71.8%)	57 (37 7%)	85 (44 7%)	<0.001
Positive	11 (28 296)	94 (62 296)	105 (55 396)	.01001
HDV-BNA p(%)	11 (2012/0)	04(02:270)	100 (00.070)	
Notativo	14 (28,6%)	36 (22 496)	50 (22 8%)	<0.001
Positive	23 (46.9%)	33 (20.5%)	56 (26.7%)	-01001
Nottested	12 (24 5%)	92 (57 196)	104 (49 5%)	
HDV-BNA among tested, n(%)				
Negative	14 (37 8%)	36 (52 296)	50 (47 296)	0.159
Positive	23 (62 296)	33 (47 8%)	56 (52 896)	0.100
HCVAb. p(%)	20 (02.2.70)	00(47.0%)	00(02.070)	
Negative	16 (32,7%)	106 (80.3%)	122 (67.4%)	< 0.001
Positive	33 (67.3%)	26 (19, 796)	59 (32,6%)	2.001
HCV-BNA p(%)	00 (07 10 /0]	20 (1017 /0)	00 (02:070)	
Negative	20 (60 6%)	20 (76 9%)	40 (67 896)	0.046
Positive	11 (33, 396)	2 (7, 796)	13 (22 0%)	0.040
Not-tested	2 (6 196)	4 (15 496)	6 (10 296)	
On NUCs. n (%)	42 (85, 796)	43 (26, 7%)	85 (40,5%)	<0.001
On IEN, n(%)	0 (0.0%)	7 (4.396)	7 (3.396)	0.139
	0 10.0101	. [	. [0.070]	0.100

Table 2. Demographic and clinica	I characteristics of HDVAb	pos individuals in
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period 2019-2023	HIV/HBV (ICONA)	HBV mono (PITER)	Total	р
N	36 (7.4%)	449 (92.6%)	485 (100.0%)	
Sex, Males, n(%)	32 (88.9%)	272 (60.6%)	304 (62.7%)	< 0.001
Age, years, median [IQR]	55.0 [50.0 59.5]	56.0 [46.0 63.0]	56.0 [47.0 63.0]	0.982
Area of birth, (%)				
Africa	3 (8.3%)	12 (2.7%)	15 (3.2%)	< 0.001
America	3 (8.3%)	0 (0.0%)	3 (0.6%)	
Asia	1 (2.8%)	1 (0.2%)	2 (0.4%)	
Europe central/west	0 (0.0%)	1 (0.2%)	1 (0.2%)	
Europe East	1 (2.8%)	139 (31.7%)	140 (29.5%)	
Italy	28 (77.8%)	286 (65.1%)	314 (66.1%)	
IVDU, n(%)	19 (52.8%)	37 (9.4%)	56 (13.0%)	< 0.001
Alcohol use, n(%)				
No	16 (44.4%)	259 (57.7%)	275 (56.7%)	0.289
Yes	14 (38.9%)	127 (28.3%)	141 (29.1%)	
Unknown	6 (16.7%)	63 (14.0%)	69 (14.2%)	
Cirrhosis, n(%)	15 (41.7%)	317 (70.6%)	332 (68.5%)	<0.001
Platlets, x 10º/L, median [IQR]	201.5 [121.5 246.0]	139.0 [89.0 194.0]	142.0 [90.0 200.0]	0.003
<150	23 (63.9%)	196 (44.3%)	219 (45.8%)	0.024
FIB-4, median [IQR]	1.8 [1.1 2.9]	2.7 [1.4 5.0]	2.5 [1.4 4.7]	0.407
1.45-	15 (42.9%)	112 (25.5%)	127 (26.7%)	0.020
1.45-3.25	13 (37.1%)	143 (32.5%)	156 (32.8%)	
3.25+	7 (20.0%)	185 (42.0%)	192 (40.4%)	
HBeAb, n(%)				
Negative	12 (40.0%)	36 (8.9%)	48 (11.1%)	< 0.001
Positive	18 (60.0%)	368 (91.1%)	386 (88.9%)	
HBeAg, n(%)				
Negative	24 (77.4%)	400 (93.0%)	424 (92.0%)	0.002
Positive	7 (22.6%)	30 (7.0%)	37 (8.0%)	
HBV-DNA, n(%)				
Negative	17 (47.2%)	295 (65.7%)	312 (64.3%)	< 0.001
Positive	4 (11.1%)	124 (27.6%)	128 (26.4%)	
Not-tested	15 (41.7%)	30 (6.7%)	45 (9.3%)	
HBV-DNA among tested, n(%)				
Negative	17 (81.0%)	295 (70.4%)	312 (70.9%)	0.299
Positive	4 (19.0%)	124 (29.6%)	128 (29.1%)	
HDV-RNA, n(%)				
Negative	11 (42.3%)	107 (36.0%)	118 (36.5%)	0.524
Positive	15 (57.7%)	190 (64.0%)	205 (63.5%)	
Nottested				
HDV-RNA among tested, n(%)	11 (30.6%)	107 (23.8%)	118 (24.3%)	0.609
Negative	15 (41.7%)	190 (42.3%)	205 (42.3%)	
Positive	10 (27.8%)	152 (33.9%)	162 (33.4%)	
HCVAb, n(%)				
Negative	19 (52.8%)	391 (92.2%)	410 (89.1%)	< 0.001
Positive	17 (47.2%)	33 (7.8%)	50 (10.9%)	
HCV-RNA, n(%)				
Negative	13 (76.5%)	32 (97.0%)	45 (90.0%)	0.022
Positive	4 (23.5%)	1 (3.0%)	5 (10.0%)	
On NUCs, n (%)	34 (94.4%)	327 (72.8%)	361 (74.4%)	0.004
On IFN, n(%)	0 (0.0%)	5 (1.1%)	5 (1.0%)	0.524

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