The cascade of care for patients with chronic hepatitis delta in Southern Stockholm, Sweden for the past 30 years

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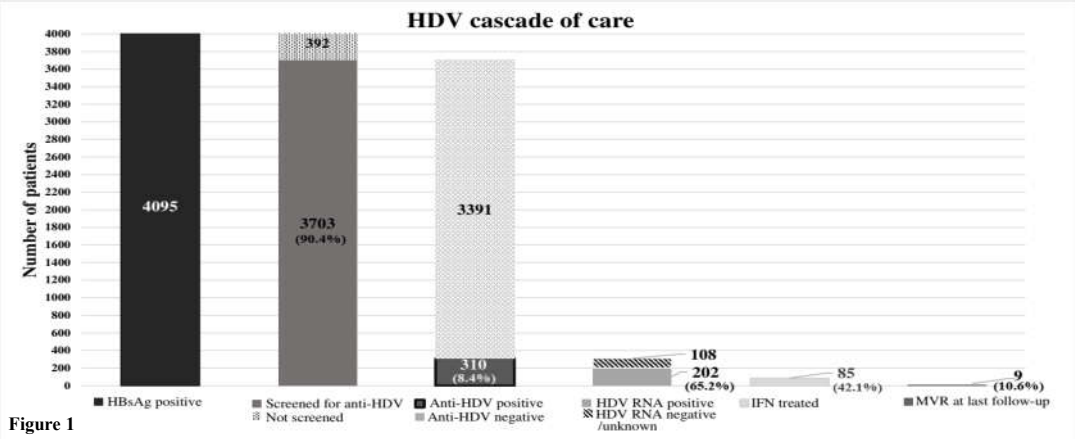

Figure 1

Conclusions

- A rather high screening rate of anti-HDV at 90% could be seen at KUH. This may be attributed to a standardized routine of care for patients with CHB, with initial visits to a specialized hepatitis nurse with standard package of blood tests.
- Receiving a delayed screening test was associated with worse liver-related outcomes, stressing the need of a strategy for timely HDV diagnosis.

Introduction

Previous studies have shown a suboptimal screening rate for HDV among persons with chronic hepatitis B (CHB) in different levels of care and settings.

Aim

To study the frequency of and predictors to receive an anti-HDV test among HBsAg +ve persons at Karolinska University Hospital (KUH). Also, the cascade of care for anti-HDV +ve persons was assessed.

Methods

The screening rate from years 1970 to 2022 was analyzed. The associations of baseline variables and risk factors to receive a screening test, and whether a delayed screening was associated with worse liver–related outcomes were assessed using logistic regression models.

Results

- Among 4095 HBsAg +ve persons (see Table 1 for baseline characteristics), 3703 (90.4%) underwent an anti-HDV screening. Anti-HDV were positive in 310 (8.4%), of which 202 (65.2%) were HDV RNA +ve. Eighty-five (42%) received IFN, and 9 (10.6%) achieved maintained virological response (MVR) at the last follow-up (Figure 1).
- The median duration to receive a screening test was 1.8 months (range 0.0-57.1) after CHB diagnosis, and 2513 (67.9%) patients were screened within 2 years.
- The proportion of patients screened increased, and the time to an ant-HDV test decreased significantly with study periods (Figure 2 and 3).

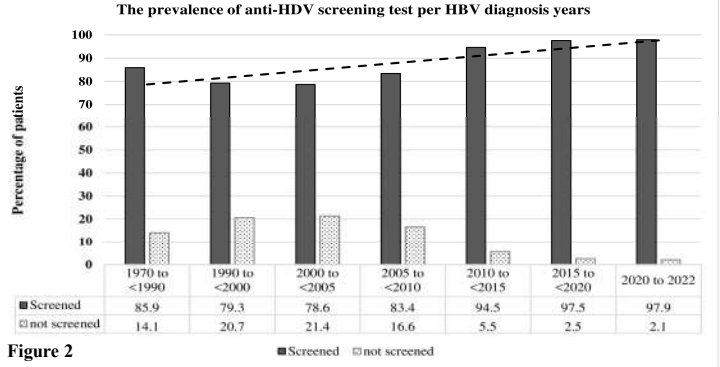

Figure 2

Table 1: Baseline characteristics of patients diagnosed with positive HBsAg grouped by ever receiving an anti-HDV screening test.

Parameter, proportions per column	All HBsAg positive	HDV tested	No HDV tested	P-value
Number, (%)	4095 (100)	3703 (90.4)	392 (9.6)	<0.001
Men, n (%)	2292 (56.0)	2067 (55.8)	225 (57.4)	0.55
Women, n (%)	1803 (44.0)	1636 (44.2)	167 (42.6)	0.63
Age at HBV diagnosis, median (IQR)	32.8 (25.3-42.2)	32.8 (25.4-42.3)	32.2 (24.2-42.0)	0.11
Age at HDV testing, median (IQR)	36.3 (28.9-45.7)	36.3 (28.9-45.7)	na	na
Area of origin, n (%) per row				0.004
America/South America	35 (100)	29 (82.9)	6 (17.1)	
Africa	965 (100)	875 (90.7)	90 (9.3)	
Asia	1934 (100)	1777 (91.9)	157 (8.1)	
Europe	599 (100)	523 (87.3)	76 (12.7)	
Eastern Mediterenean[¥]	511 (100)	468 (91.6)	43 (8.4)	
Not available (missing)	562 (100)	499 (92.0)	63 (11.1)	
Co-infection/known risk factor, n (%) per column				
Co-infection with HCV	66/4073 (1.6)	57/3684 (1.5)	9/389 (2.3)	0.26
Co-infection with HIV	132/3754 (3.2)	102/3411 (2.1)	30/343 (8.7)	<0.001
Eligible per AASLD criteria[¤]	3357 (82.0)	3090 (83.4)	267 (68.1)	<0.001

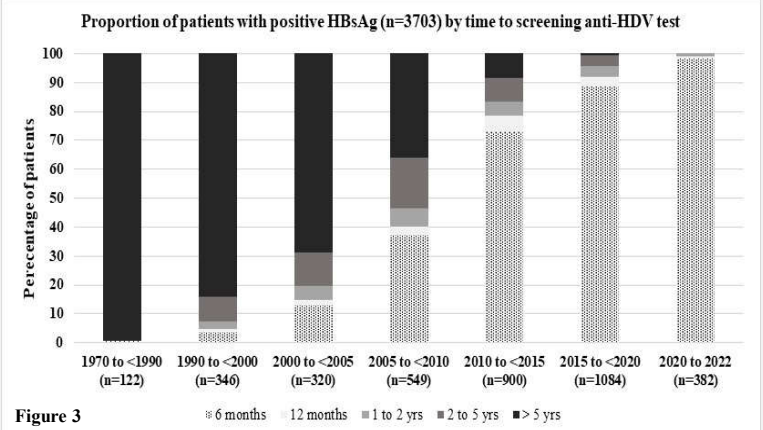

Figure 3

Table 2: Logistic regression analysis of variables associated with developing any liver-related event defined as HCC, decompensation event, liver transplantation and/or liver-related death (n=53) in patients with HDV RNA replication (n=202)

	Univariable		Multivariable	
Parameter	**odds ratio, 95% CI**	**P- value**	**odds ratio, 95% CI**	**P-value**
Age at HDV diagnosis (continuous scale)	1.07 (1.04-1.10)	<0.001*	**1.04 (1.00-1.07)**	**0.05**
Male vs female	1.69 (0.88-3.24)	0.11		
Asian vs non-Asian	1.55 (0.66-3.62)	0.32		
HCV co-infection	0.83 (0.29-2.38)	0.73		
HIV co-infection	2.18 (0.35-13.49)	0.40		
Known root of transmission	0.84 (0.32-2.19)	0.73		
Diagnosis of cirrhosis	33.00 (11.18-97.40)	<0.001*	**34.0 (10.94-105.66)**	**<0.001**
IFN exposed vs non-exposed	2.13 (1.11-4.9)	0.02*	0.96 (0.39-2.39)	0.93
Maintained virological response	1.37 (0.51-3.70)	0.54		
Reference anti-HDV screening < 2 years after HBV diagnosis	--	--	--	
Anti-HDV screening 2-<5 years	2.48 (0.75-8.26)	0.14	3.46 (0.62-19.47)	0.25
Anti-HDV screening ≥ 5 years	3.47 (1.35-8.96)	0.01*	**7.58 (1.82-31.58)**	**0.01**

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