

Epidemiology of hepatitis Delta in France

Dominique ROULOT

Liver Unit, Avicenne hospital

dominique.roulot@aphp.fr



Seroprevalence of Delta infection in France

- Very few data available concerning HDV seroprevalence in HBV+ patients :
 - Two studies¹⁻² performed in HIV-HBV co-infected patients:
 - 12.6%** in HIV+(n=246); **2.9%** HIV- (n=205)
 - 7.8%** in a cohort of HIV-HBV patients (n=308)
 - One study³ in 4492 HBV+ blood donors (1997-2011): **2%**
 - One study⁴ in 3173 new HBV+ patients (2008-2012): **3.7%**
- Estimated seroprevalence of anti-HDV in France:
 - **3 to 4%** among 200-250.000 AgHBs+ patients
 - ~ 6 to 8000 HDV+ patients**

¹Piroth J et al. Hepatology 2010

²Boyd A et al. J Viral Hepat 2010

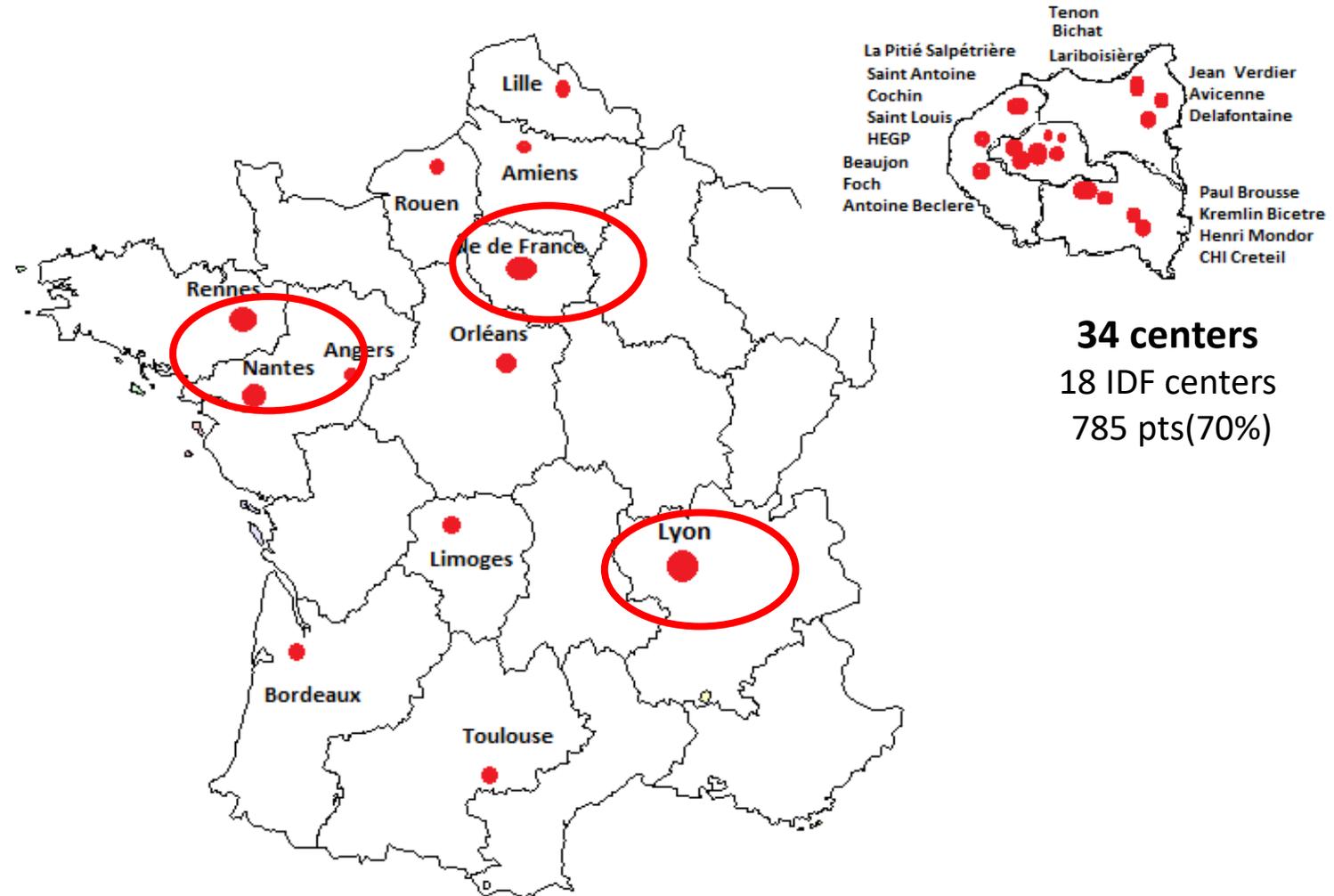
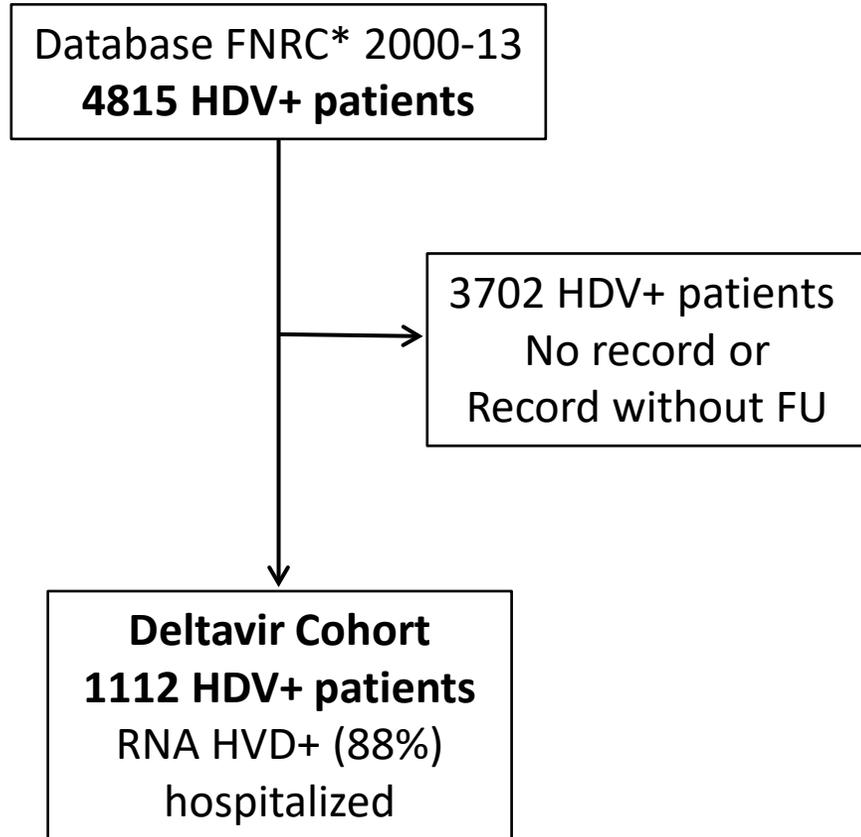
³Servant-Delmas A et al. J Clin Virol 2014

⁴<https://www.santepubliquefrance.fr>



Unité de Virologie
Centre National de Référence
des hépatites B, C et Delta
Laboratoire Associé

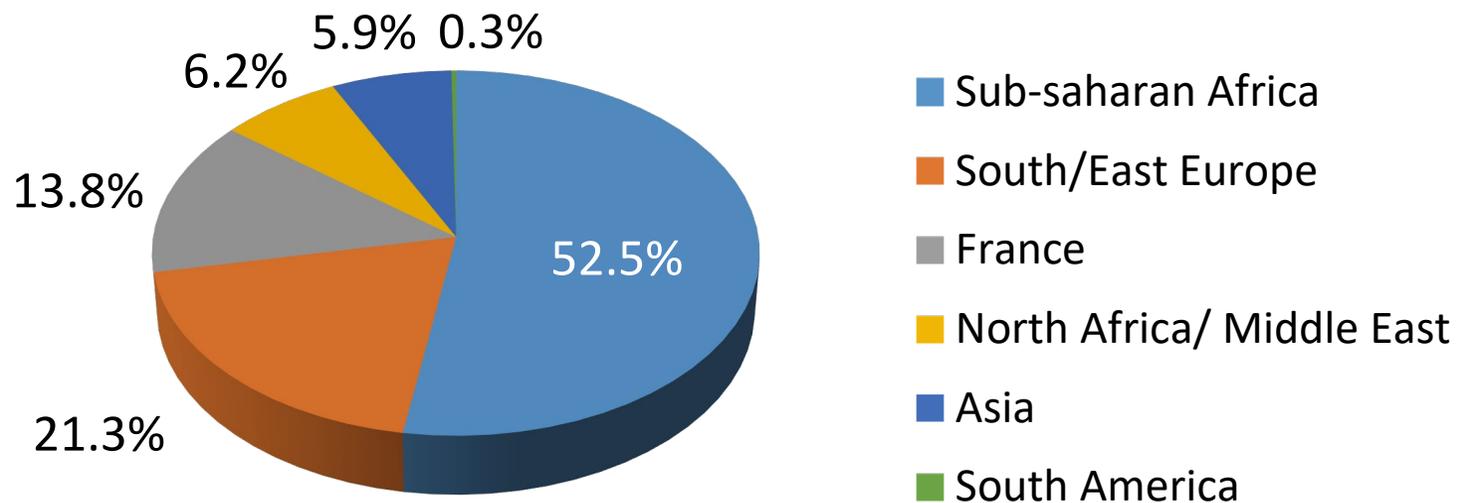
HDV in France: the DeltaVir study (multicentric, retrospective study on 1112 HDV+ patients)



*French National Reference Center for Delta Hepatitis

Most Delta patients in France are immigrants

- Median age 37 ± 10 yrs; 69% male
- 86% of the patients were immigrants
- Mostly from sub-Saharan Africa (52.5% of cases)



Principal native countries of HDV immigrants

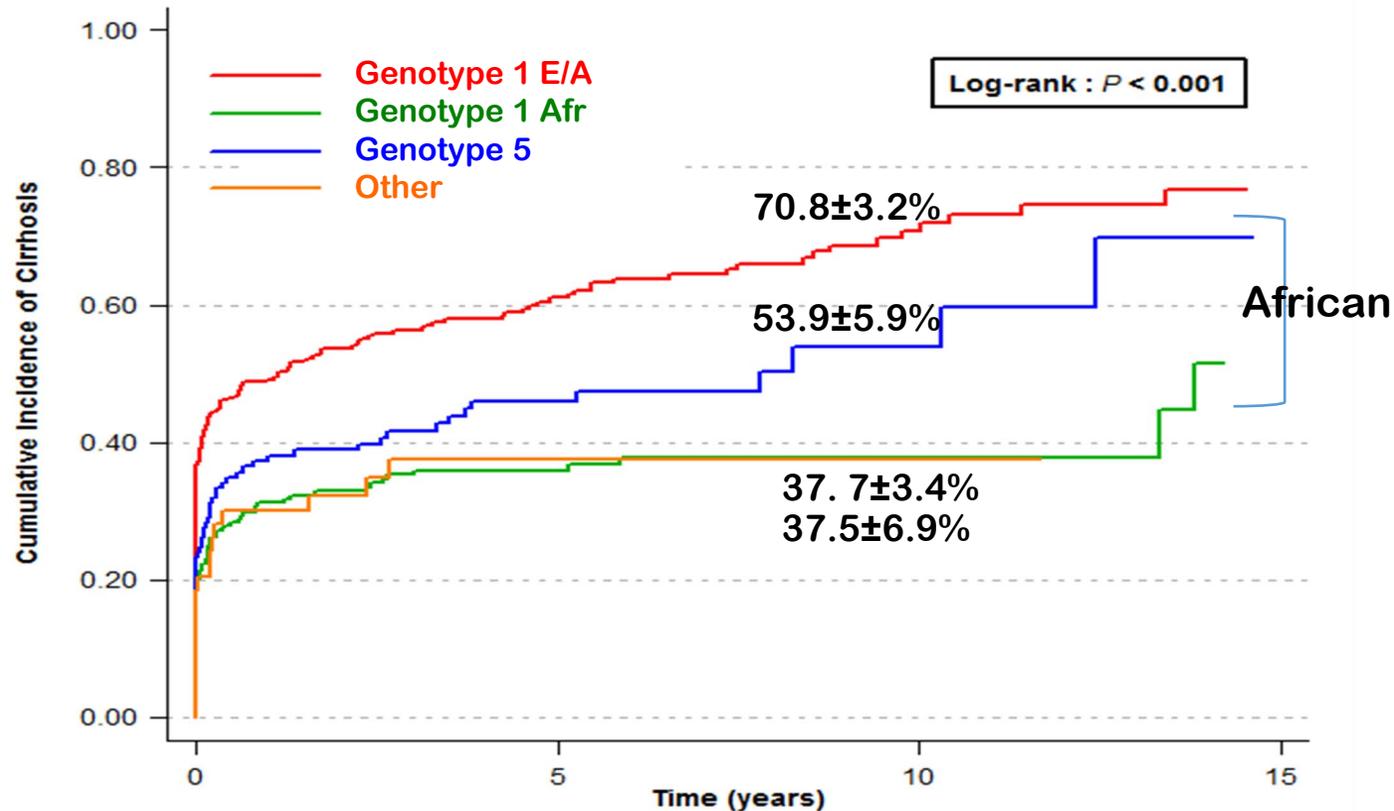
Africa	Cameroun
	Ivory coast
	Mali
	Rép. Centre Afr.
	Mauritania
East Europe	Romania
	Georgia
	Bulgaria
Asia	Mongolia

Epidemiological & clinical characteristics of Deltavir patients

Risk factors for HDV transmission	N (%)
Birth in endemic countries	780 (74%)
IVDU	165 (16%)
Iatrogenic/Parenteral	58 (6%)
Sexual	47 (4%)

Comorbidities	N	n (%)
Alcohol (past/present)	873	145 (17%)
Tobacco (past/present)	842	368 (44%)
BMI <25	964	680 (70%)
[25 ; 30[209 (22%)
≥ 30		75 (8%)
Viral co-infections		
HCV	955	231 (24%)
HIV	931	180 (19%)
HCV+HIV	894	82 (9%)

Influence of Delta genotype and place of birth on cirrhosis occurrence



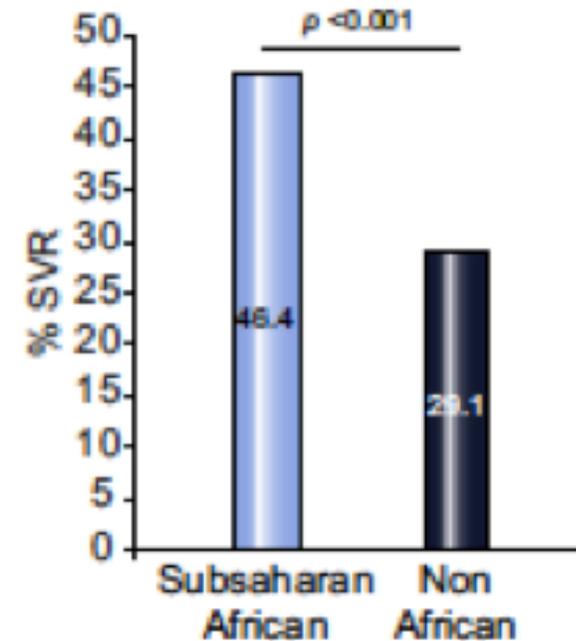
- African patients have less cirrhosis than non-African (twice less if HDV-1 infection)
- In African patients, HDV-5 is more fibrotic than HDV-1 genotype

	At-risk patients (events)						
1E	387	(217)	72	(13)	25	(4)	9
1A	244	(82)	73	(2)	20	(2)	6
Geno 5	146	(62)	40	(3)	9	(2)	0
Others	54	(19)	11	(0)	4	(0)	2

Roulot D et al. J Hepatol 2020
Spaan M et al. J Hepatol 2020

Superior response to interferon treatment in HDV+ African patients

	Response	Non-Response
N	176	238
African (226)	115 (50.8%)	111 (49%)
non African (188)	61 (32.4%)	127 (67.5%)



Roulot D et al. J Hepatol 2020
Spaan M et al. J Hep 2020

HDV hepatitis is the most severe form:of chronic viral hepatitis

median follow-up (FU): 3.0 yrs [0.8-7.2]

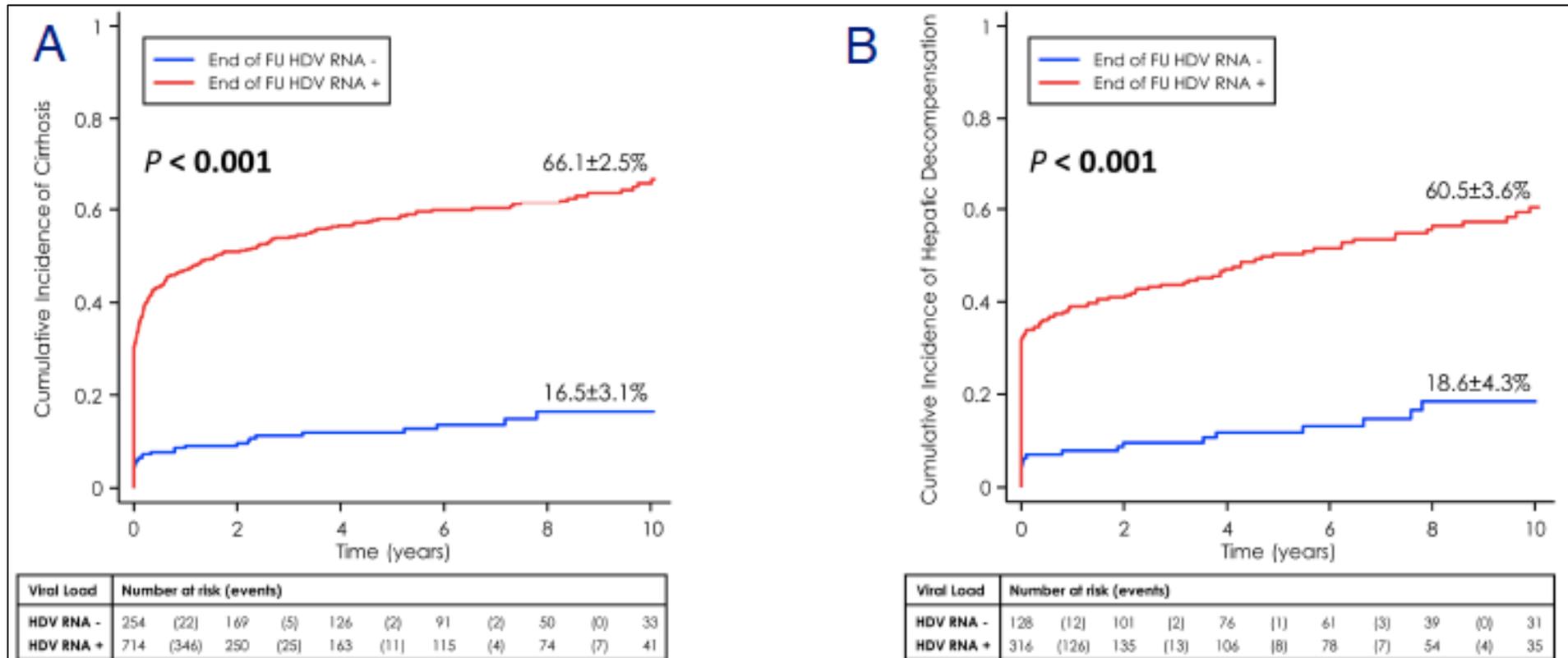
Clinical status	Initial	End of FU
Cirrhosis	28.3%	48.8%
Liver decompens.	14.8%	24.2%
HCC	2.7%	9.2%
Death or LT*	-	19.1%

Liver complications: incidence at 10 yrs

Complications	Cirrhosis	Liver decompens.	HCC	Death or LT*
Incidence at 10 yrs [95% IC]	57.3 % [53.2;61.4]	31.0 % [27.3;35.2]	15.3 % [12.1;19.3]	25.1 % [21.6;28.9]

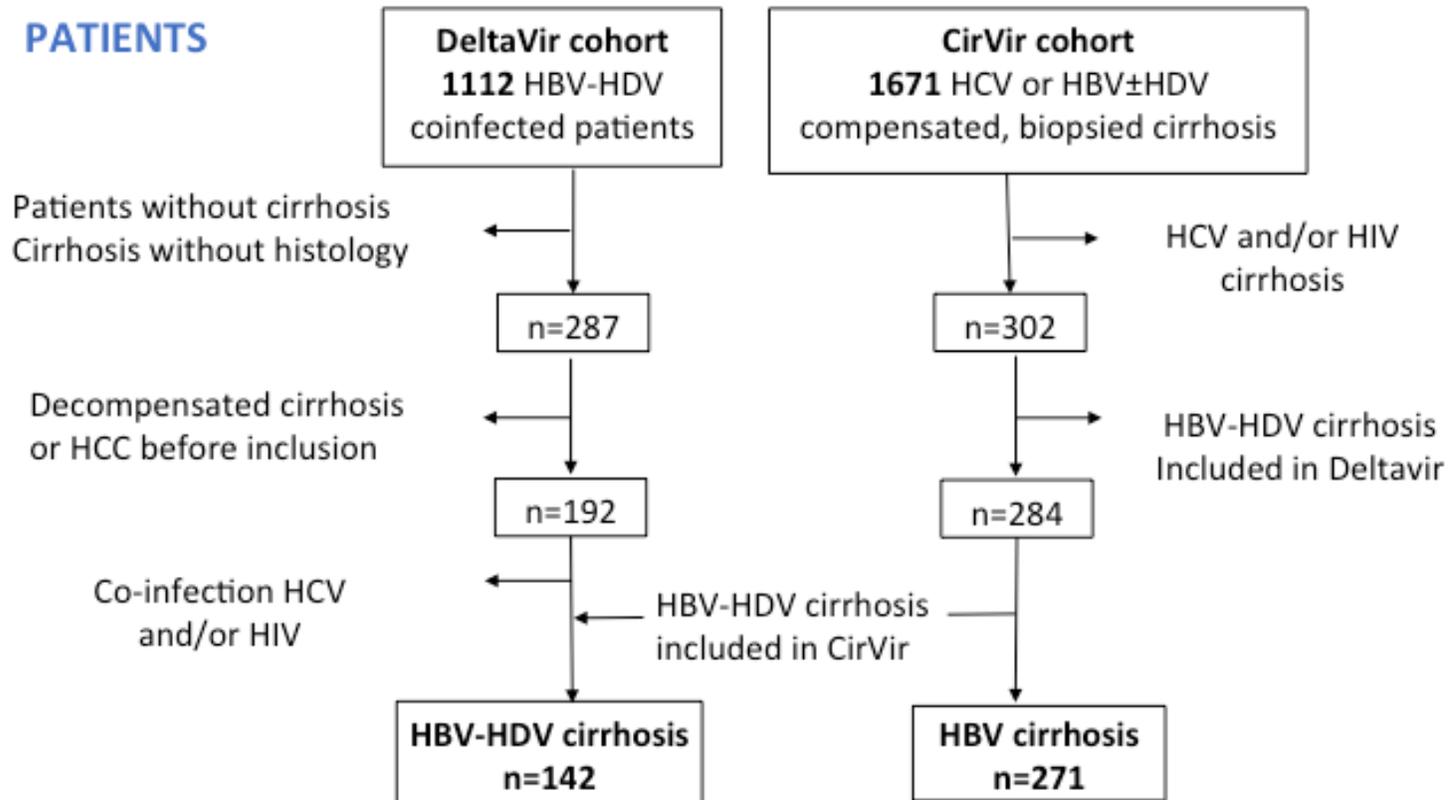
*LT: liver transplantation

Positive HDV-RNA at the end of FU is associated with an increased risk of cirrhosis and liver decompensation

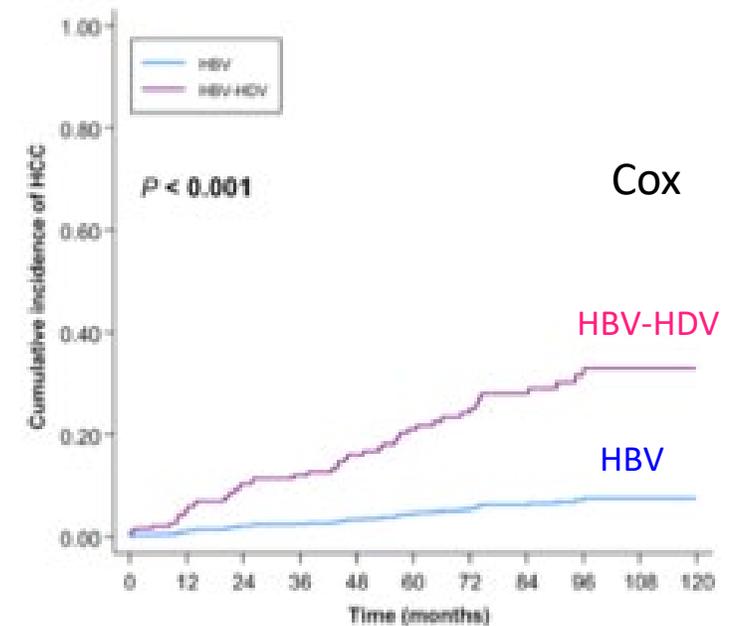


Higher incidence of hepatocellular carcinoma in patients with cirrhosis caused by HBV-HDV co-infection compared to HBV mono-infection

PATIENTS



HCC incidence after adjustment for age



Incidence at	HBV	HBV-HDV
1 yr	1.2%	5.8%
2 yrs	2.1%	10.3%
3 yrs	2.5%	12.1%
4 yrs	3.4%	16.1%
5 yrs	4.5%	21.1%

Take-home messages

- In France, HDV infected patients are mostly immigrants from sub-saharan Africa
- African patients develop less cirrhosis and show a better response to interferon treatment than non-African patients
- Delta hepatitis is the most severe form of chronic viral hepatitis with a high incidence of cirrhosis at 10 years
- Persistence of Delta viral replication increased the risk of cirrhosis, liver decompensation and death
- HCC incidence is higher in patients with cirrhosis caused by HBV-HDV co-infection compared to HBV mono-infection
- According to the severity of Delta hepatitis, there is an urgent need for:
 - universal vaccination against HBV
 - screening for HDV in all HBsAg+ patients