Cas cliniques VIH-VHB

F. Bani-Sadr

L. Piroth

Epidémiologie VHB 2022

- 1.2 million new HBV infections occurred globally
- 254 million people were living with chronic HBV infection
- Hepatitis B-related complications, including cirrhosis and HCC, contributed to 1.08 million deaths
- Only 36 million of the total hepatitis B surface antigen (HBsAg)-positive population have been diagnosed
- Only 6.8 million of the estimated 83.3 million individuals eligible for treatment are on treatment

Co-infection VIH-VHB

- Approximately 8% of people with HIV coinfected with HBV
  - Rates up to 25% in areas where both viruses are endemic

- Morbidity and mortality worse with HIV/HBV coinfection vs HBV monoinfection
  - Higher HBV DNA levels
  - Higher risk of liver cirrhosis and cancer

N 41 ans

- Découverte coinfection VIH-VHB le 12/10/18
- Contamination hétérosexuelle
- ATCD : Tuberculose pulmonaire juin 2012 traitée au Cameroun
- Bilan initial :
  - CD4 = 312/mm3
  - ARN VIH = 199 000 copies/ml
  - Créat, BH normaux
  - Sérologies toxo, CMV, VHA, HHV8 et EBV positives
  - Sérologie VHC négative

Sérologie VHB

- Ag HBs positif
- Ag HBe négatif - Ac HBe positif
- ADN VHB > 100^6 copies/ml
- Ag HBs : 124 925 UI/ml
- Sérologie Delta négative
- Echo hépatique normale

Quel traitement débutez vous ?

- TAF/FTC + II
- TDF/FTC + IP
- Dolu + 3TC
- TAF + FTC+ rilpi

EACS 2023- Treatment and Monitoring of Persons with HBV/HIV Co-infection

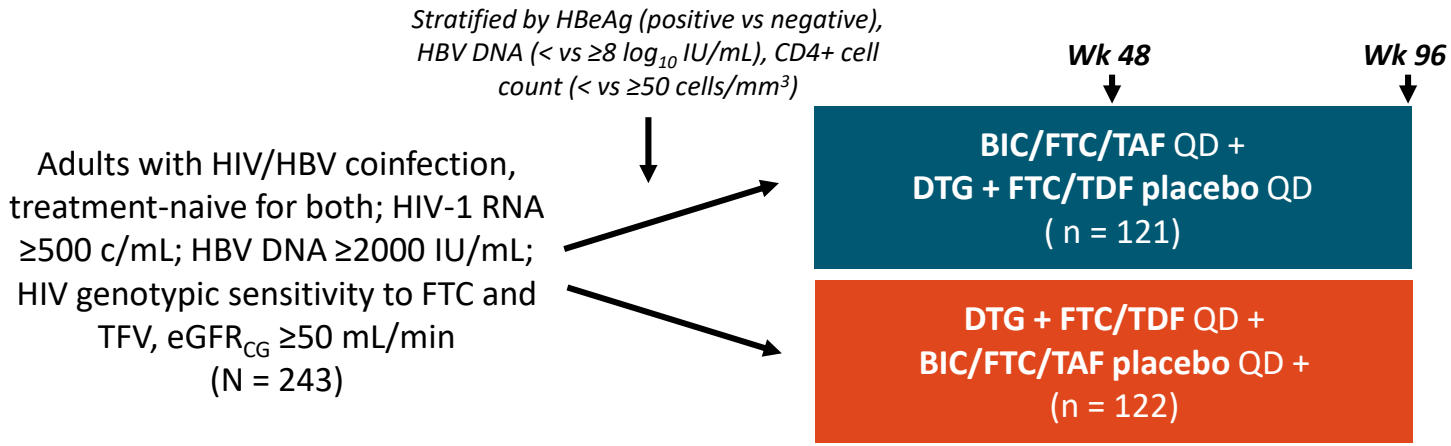
- All persons with HBV/HIV co-infection should receive ART that includes TDF or TAF unless history of tenofovir intolerance

- If TDF or TAF is strictly contraindicated, entecavir may be prescribed in persons with no prior 3TC exposure and together with fully active ART

TDF ou TAF ?

BIC/FTC/TAF vs DTG + FTC/TDF in treatment-naive persons coinfected with HIV and HBV 6 ALLIANCE: Study Design

- Randomized, placebo-controlled phase III study



- Co-primary endpoints:
  - HIV-1 RNA <50 copies/mL (by FDA Snapshot; 12% noninferiority margin)
  - HBV DNA <29 IU/mL (missing = failure analysis, 12% noninferiority margin)

Avihingsanon. AIDS 2022. Abstr OALBX0105.

ALLIANCE: Baseline Characteristics

Characteristic	BIC/FTC/TAF (n = 121)	DTG + FTC/TDF (n = 122)
Median age, yr (IQR)	31 (27-39)	32 (25-38)
Female sex at birth, n (%)	9 (7)	2 (2)
Race/ethnicity, n (%) ▪ Asian/White/Black	108 (89)/10 (8)/2 (2)	106 (87)/9 (7)/6 (5)
Median BMI, kg/m^2 (IQR)	22.2 (19.9-24.7)	21.7 (19.3-23.7)
Median HIV-1 RNA, log_{10} copies/mL (IQR)	4.7 (4.2-5.1)	4.7 (4.3-5.0)
HIV-1 RNA >100,000 copies/mL, n (%)	38 (31)	34 (28)
Median CD4+ cell count, cells/mm^3 (IQR)	245 (127-383)	236 (121-380)
CD4+ cell count <200 cells/mm^3, n (%)	46 (38)	52 (43)
Median HBV DNA, log_{10} IU/mL (IQR)	8.0 (6.5-8.4)	8.1 (6.6-8.5)
HBV DNA ≥8 log_{10} IU/mL, n (%)	60 (50)	66 (54)
HBeAg+, n (%)	92 (76)	97 (80)
ALT > ULN, n (%)	60 (50)	47 (39)

Avihingsanon. AIDS 2022. Abstr OALBX0105.

ALLIANCE: Virologic Outcomes at Wk 48

- BIC/FTC/TAF noninferior to DTG + FTC/TDF for HIV-1 RNA <50 copies/mL with treatment difference of 4.1% (95% CI: -2.5 to 10.8; *P* =.21)
- BIC/FTC/TAF superior to DTG + FTC/TDF for HBV DNA <29 IU/mL with treatment difference of 16.6% (95% CI: 5.9 to 27.3; *P* =.0023)

Result	BIC/FTC/TAF (n = 119)	DTG + FTC/TDF (n = 122)
HIV, n (%)		
▪ HIV-1 RNA <50 copies/mL	113 (95.0)	111 (91.0)
▪ HIV-1 RNA ≥50 copies/mL	5 (4.2)	7 (5.7)
▪ No virologic data	1 (0.8)	4 (3.3)
HBV, n (%)		
▪ HBV DNA <29 IU/mL[†]	75 (63.0)	53 (43.4)
▪ HBV DNA ≥29 IU/mL	43 (36.1)	66 (54.1)
▪ No virologic data	1 (0.8)	3 (2.5)
Mean change in CD4+ cell count from BL, cells/mm^3 (95% CI)	+200 (175-226)	+175 (152-198)

ALLIANCE: Virologic Outcomes at Wk 48 and 96

- At week 48,
  - undetectable HBV DNA viral load (<29 IU/mL) statistically significantly higher in the B/F/TAF group compared with the DTG + F/TDF group (63·0% versus 43·4%)

- Mean log10 HBV DNA decline similar at W48 and W96 in the 2 groups

- At week 96 , % of undetectable HBV DNA viral load (<29 IU/mL) similar (74·8% versus 70·5%)

HBeAg/HBsAg Loss and Seroconversion at Wk 48

Result, n/N (%)	BIC/FTC/TAF	DTG + FTC/TDF
HBsAg		
▪ Loss	15/119 (12.6)	7/121 (5.8)
▪ Seroconversion	10/119 (8.4)	4/121 (3.3)
HBeAg		
▪ Loss	23/90 (25.6)	14/97 (14.4)
▪ Seroconversion	21/90 (23.3)	11/97 (11.3)

- Significantly more participants receiving BIC/FTC/TAF vs DTG + FTC/TDF achieved:
  - HBsAg loss at Wk 24 (P <.05) and Wk 36 (P <.05)
  - HBeAg loss at Wk 36 (P <.01)
  - HBeAg seroconversion at Wk 36 (P <.01) and Wk 48 (P <.05)

Avihingsanon. AIDS 2022. Abstr OALBX0105.

ALLIANCE – Week 96

- Rates of HBeAg loss and HBeAg seroconversion at week 96 significantly higher in B/F/TAF group versus the DTG+F/TDF group :
  - 38% versus 20%, and 32% versus 15% respectively
- A trend towards higher HBsAg loss in the B/F/TAF group :
  - 23% versus 14%
- Similar rate of HBs seroconversion : 9·2% and 6·6%, respectively

TDF ou TAF ?

- The absence of benefit of TAF versus TDF on HBV DNA decline at W48 and W96, and on HBV suppression at W96 consistent with previously reported data in HBeAg positive individuals with HBV mono-infection
- First study to report a benefit of TAF in HBe seroclearance and HBe seroconversion.
- International randomized trial comparing TAF versus TDF for HBeAg-positive individuals with HBV mono-infection:
  - rates of HBeAg loss and HBeAg seroconversion at week 48 similar in the 2 groups (14% and 10% in the TAF group versus 12% and 8% in the TDF group).
- In a Chinese randomized trial,
  - loss of HBeAg and HBeAg seroconversion at W144 not significantly different in the TAF group (23% and 17%, respectively) and in the TDF group (28% and 16%, respectively),

TDF ou TAF ?

- Trials comparing telbivudine vs entecavir:
  - telbivudine as potent as entecavir in HBV viral suppression
  - but significantly superior with regard to HBeAg loss and seroconversion

- Different intrahepatic antiviral potency and/or immune response might be two non-mutually exclusive explanations for the benefit of TAF

- Quantification of hepatitis B core-related antigen (HBcrAg) and serum HBV RNA
  - strongly correlates with transcriptional production of cccDNA
  - useful in predicting HBeAg seroconversion

TDF ou TAF ?

- Decline in HBV RNA after the initiation of nucleos(t)ide analogue treatment :
  - strongest predictor of HBeAg seroconversion compared to other markers, such as serum levels of HBV DNA, quantitative HBsAg and HBeAg levels and HBV genotype

- Quantification of anti-HBc level :
  - an immunological biomarker that is thought to reflect a higher HBV specific adaptive immune status
  - strongly predicts HBe clearance and seroconversion both in HBV mono-infected and HBV/HIV coinfected patients receiving nucleos(t)ide analogue treatment
- **Treatment of HIV and HBV coinfection** Firouzé Bani-Sadr
- **Lancet HIV. 2023 Oct;10(10):e624-e625.**

Quel traitement débutez vous ?

- TAF/FTC + II
- TDF/FTC + IP
- Dolu + 3TC
- TAF + FTC+ rilpi

- 22/10/18 mise sous TDF/FTC + DRV/rt

A compter du 21/11 (S4), ictère et perturbation du BH

- 22/10 mise sous TDF/FTC + DRV/rt

- 21/11 :
  - ASAT = 816 (16 x N)
  - ALAT = 254 (5 x N)

- 29/11 :
  - ASAT = 1442 (29 x N)
  - ALAT = 557 (11 x N)
  - Bili = 234

  Bilan et attitude thérapeutique ?

Bilan

- ARN VHC indétectable
- Séro VHE négative
- ARN VHE indétectable
- Séro delta négative
- ARN delta négatif

Evolution

- 29/11 :
  - ASAT = 1442 (29 x N)
  - ALAT = 557 (11 x N)
  - Bili = 234
  - TP = 61%
  - Facteur V = 84%
  - ADN VHB = 43 200 cp/ml

- 30/11
  - ASAT =891
  - ALAT = 417
  - Bili = 236
- 01/12
  - ASAT = 530
  - ALAT = 293
  - Bili = 220
- 03/12
  - ASAT = 397
  - ALAT = 242
  - Bili = 178
  - TP = 67 %
  - Facteur V = 109 %

- 07/01/2019 (M2 TTT ARV)
  - ASAT = 41
  - ALAT = 20
  - Bili = 34
  - ADN VHB = 182 cp/ml
  - Ag HBs quantitatif = 19 (vs 124 925 UI/ml avt TTT)

- 07/05/2019
  - ASAT = 21
  - ALAT = 11
  - ADN VHB = 18
  - Ag HBs quantitatif = 4

Me N 41 ans

- Bilan 24/11/2021
- AgHBs négatif
- Ac anti-HBs : 4

EACS 2023- Treatment and Monitoring of Persons with HBV/HIV Co-infection

- Persons with liver cirrhosis and low CD4 count require careful surveillance in the first months after starting ART in order not to overlook immune reconstitution syndrome and subsequent liver decompensation due to flares of liver enzymes (for management of cirrhotic persons)

- Please note that diagnosis of cirrhosis may be difficult in persons already on HBV treatment

EACS 2023- Treatment and Monitoring of Persons with HBV/HIV Co-infection

- Liver blood tests should be performed every 3 months during the first year and every 6-12 months thereafter
- HBV-DNA should be determined every 3-6 months during the first year and every 12 months thereafter
- HBsAg should be checked at 12 months intervals at least until loss of HBsAg

ALLIANCE: Adverse Events Through Wk 48

Adverse Event, %	BIC/FTC/TAF (n = 121)	DTG + FTC/TDF (n = 122)
Treatment-emergent	89	86
▪ Grade 3/4	14	16
▪ All-grade AEs, terms ≥10%	17	11
– Upper respiratory tract infection	13	11
– COVID-19	9	12
– Pyrexia	7	11
– ALT increased	11	4
– Nasopharyngitis		
Treatment-emergent study drug-related	24	27
▪ Grade 3/4	5	1
▪ All-grade AEs, terms ≥10%		
– Weight increased	6	7
– ALT increased	1	5
– Headache	3	2
– Nausea	1	4
– Dizziness	2	2

Adverse Event, %	BIC/FTC/TAF (n = 121)	DTG + FTC/TDF (n = 122)
Treatment-emergent serious AE	12	12
Treatment-emergent study drug-related serious AE	1*	0
Treatment-emergent AE leading to discontinuation	1†	0
Death	1‡	1‡

*Cryptococcal meningitis on Day 32 (resolved on Day 40).
†Hepatocellular carcinoma on Day 1115 (later died in hospice).
‡Due to unknown causes on Days 28 and 38, respectively.

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ALLIANCE: Laboratory Abnormalities Through Wk 48

Maximum Treatment-Emergent Toxicity Grade, %	BIC/FTC/TAF (n = 120)	DTG + FTC/TDF (n = 121)
Any grade 3/4	34	31
Grade 3 or 4 occurring in ≥2% in either group		
▪ ALT increased*	20	13
▪ AST increased*	13	12
▪ LDL increased (fasting)	8	2
▪ Amylase increased†	5	7
▪ Urine glucose increased‡	3	2
▪ Total cholesterol increased (fasting)	3	0
▪ Neutrophils decreased	0	2

*Transient and did not result in treatment discontinuation.
†No pancreatitis cases.
‡No cases of glycosuria occurred in non-diabetics without concurrent hyperglycemia.

Avihingsanon. AIDS 2022. Abstr OALBX0105.

M. P. 42 ans

- VIH+ depuis 1987
- Ac anti-HBc isolés depuis 1995 (AgHBs, AgHBe, Ac anti-HBe négatifs)- BH Nl
- Nov 96 – mis sous stavudine-lamivudine
- M1 ARV- ALAT 1208 U/L AgHBs +, Ac anti-HBe+, HBV-DNA 3,8 log
- CD4 290/mm3 avant ARV versus 350/mm3 M1 ARV
- ARN VIH 4,8 log avant ARV versus < 500 copies/mL M1ARV

M. P. 42 ans

- CAT ?
- Diagnostic ?

M. P. 42 ans

- Maintien ARV
- Normalisation BH en 2 mois
- HBV DNA indétectable à M3 (< 500 copies/mL)
  - HBV DNA indétectable 11 mois avant ARV (< 500 copies/mL)

Diagnostic

- HBV reactivation in HIV/HBV or HCV/HBV people

- Control of HIV replication with cART and/or by HCV treatment, which may alter the complex dynamics of viral dominance and diminish the suppressive effects of HIV or HCV on HBV replication

Mme 40 ans

- Co-infectée VIH/VHC
- Génotype 3a- ARN VHC 7.55 log- BH Nl
- Ac anti-HBc isolés – HBV DNA indetectable
- CD4 : 412/mm3 – ARN VIH 25 125 copies/mL

Mme 40 ans

- Sept 2005 – Début TTT anti-VHC par Peg-IFN plus ribavirine
- S12- ARN VHC indétectable
- M4- asthénie-ictère
- ALAT 2991 U/L – Bili T 343 µmol/L (N< 17 µmol/L)

Mme 40 ans

- Bilan et CAT ?

Bilan

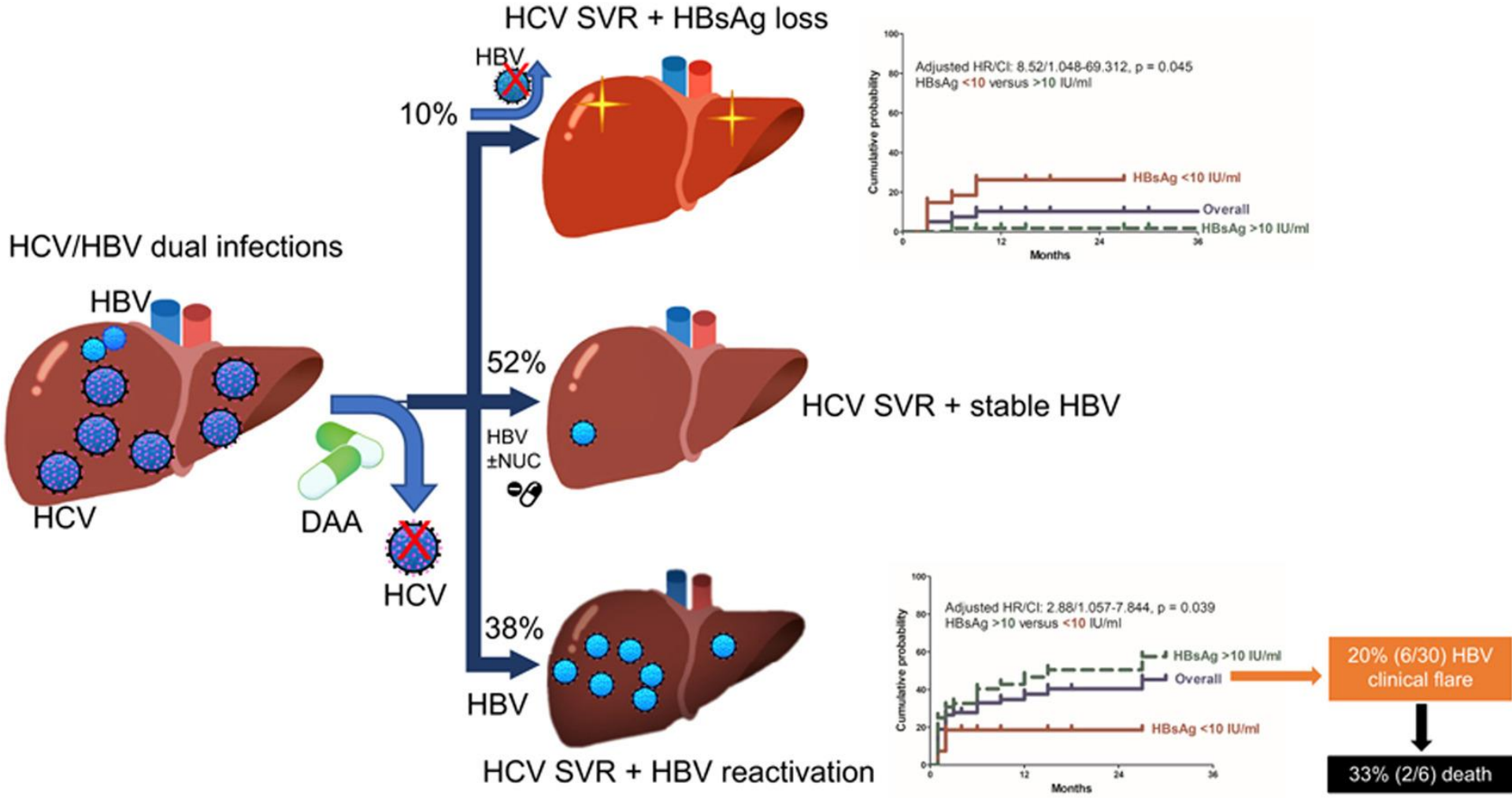
- IgM anti-VHA négatifs
- ARN VHC indetectable
- AgHBs +
- AgHBe +
- HBV DNA > 8 log
- Sérologie hépatite delta négative

Mme 40 ans

- Mise sous adefovir plus lamivudine
- Arrêt Peg-riba
- A M4 post TTT anti-VHB
  - ADN VHB indétectable
  - AgHBs et AgHBe négatifs

ARN VHC indétectable 6 mois après arrêt Peg-ribavirine

Hepatitis B-related outcomes following direct-acting antiviral therapy in Taiwanese 79 patients with chronic HBV/HCV co-infection- J Hepatol July 2020



EASL 2025- What should be considered when treating HBsAg-positive patients with HBV/HCV coinfection?

- All HBsAg-positive patients with cirrhosis (even if HBV DNA is undetectable) should receive NA therapy during anti-HCV direct-acting antiviral therapy to prevent HBV reactivation (LoE 2, strong recommendation, strong consensus).

- Prophylactic NA treatment to prevent reactivation during anti-HCV direct-acting antiviral treatment can be given in patients not meeting the indication for treatment of chronic HBV monoinfection (e.g. HBV DNA <2,000 IU/ml, normal ALT and absence of advanced fibrosis/cirrhosis) (LoE 2, weak recommendation, strong consensus)

Mme T, 53 ans

- Co-infection VIH-VHC découverte en 1997
- VHC traitée en 2015 et guérie
- VIH – ARV prescrits depuis 2008 mais observance très aléatoire avec nbreux arrêts de TTT
- Statut Ac anti-HBc isolés contrôlés en 2007, 2009 et 2013

Mme T, 53 ans

- ADN VHB indétectable en 2010 et 2013
- Ne prend plus de TTT ARV depuis 2020
- Réussi le concours d'aide soignante
  - Bilan Médecine du Travail 14/11/23 :
    - AgHBs douteux ; Ac anti-HBc positifs - ADN VHB 419 UI/ml
- Cs 11/23- Prescription bilan VIH non fait et TTT ARV non pris

Mme T, 53 ans

- Hospitalisée sept 2025 pour tentative de suicide
- CD4 19% (292/mm3)
- ARN VIH 20 500 copies/m/L
- ADN VHB 281 000 000 UI/mL
- AST 60 (N<35); ALT Nle

Réactivation VHB en cas co-infection VIH-VHB

- Severe immunodepression -low CD4 T-cell counts or drug-induced immunosuppression
- Control of HIV replication with cART, by HCV treatment → alter the complex dynamics of viral dominance and diminish the suppressive effects of HIV or HCV on HBV replication
- Emergence of HBV drug resistance
- Development of HBV DNA immune escape mutations in patients with HBsAb
- **Switch of antiretroviral therapy without HBV drugs**

HBV reactivation in PWH with positive HBcAb and HBsAg negative after switching to cART without HBV drugs

- Rates : 1.6% to 42.6%
- Variations could be partly due :
  - HBV DNA thresholds used to define reactivation.
  - prevalence of concurrent HBsAb positivity
  - Rate of immuno-virological control among participants
  - continuation of 3TC
  - follow-up period after HBV drug withdrawal
    - risk of HBVr when HBV-active agents are stopped in patients with positive HBcAb : HBV DNA >10 IU/mL from 12.9% to 42.6% at 12 to 24 months post stoppage of TDF/TAF

HBV reactivation in PWH

- Reported in PWH with high HIV immuno-virologic control and previously resolved HBV infection but with low HBsAb titers

- Low HBsAb titers (<100 IU/mL) have been linked to low-level HBV replication, detected by sensitive assays, in PWH treated with TDF-based cART

- Isolated HBcAb (negative HBsAg and HBsAb): risk factor for occult HBV infection and HBV reactivation
  - most often indicates either the disappearance of HBsAg following acute HBV infection without emergence of HBsAbs
  - or resolved HBV infection with loss of HBsAb, is a risk factor for occult HBV infection and HBV reactivation

Isolated HBcAb (negative HBsAg and HBsAb)

- Weaker immune response against HBV, characterized by infrequent T-cell proliferation and low IFN-γ production in response to HBs antigens

- In a cohort of 7,056 PWH with HBcAb, HBV reactivation risk following switch to cART without HBV activity :
  - 1,1% PWH with isolated HBcAb versus 0,4% PWH with positive HBsAbs

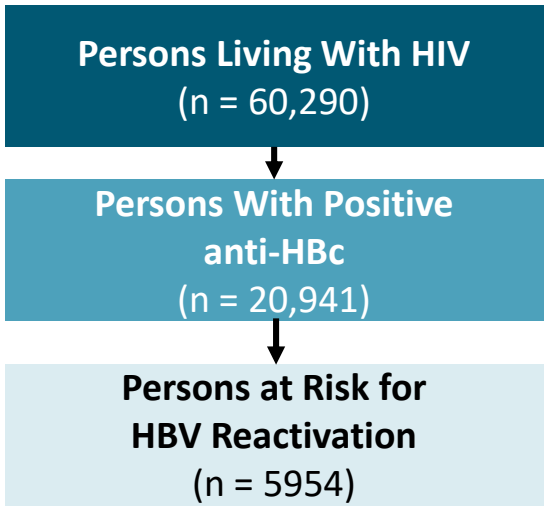
HBV Reactivation After Switch to ART Lacking HBV Activity: Background

- ART without 3TC, FTC, or TFV can be attractive in setting of comorbidities (eg, CKD) or when simplifying to 2-drug regimens, but such regimens lack HBV activity[1]
- In US, rates of anti-HBc positivity ~10x higher in people living with HIV vs general population (~33% vs 3.5%-4%)[2,3]
- Those with positive anti-HBc (with or without HBsAb) are at risk for HBV reactivation[4]
  - Spontaneous reactivation can occur due to HIV immunosuppression
  - **Reactivation can occur due to cessation of both anti-HBV and anti-HIV activity**
- Current analysis evaluated HBV reactivation rates in people living with HIV and positive anti-HBc after switching to ART that lacked HBV activity[3]

1. Chastain. J Int Assoc AIDS Care. 2019;18:2325958219867325. 2. Landrum. J Med Virol. 2011;83:1537.
3. Denyer. IDWeek 2023. Abstr 1026. 4. Conners. MMWR Recomm Rep. 2023;72:1.

HBV Reactivation: Study Design

- Retrospective chart study of patients enrolled on Veteran Aging Cohort Study



Inclusion Criteria

- Switched to ART without HBV activity (no 3TC, FTC, or TFV) before 12/31/2022
- At risk for HBV reactivation but without active HBV
  - HBsAg negative
  - HBV DNA negative, if checked

- **Primary outcome:** HBV reactivation rates (new HBsAg positive or detectable HBV DNA)

Denyer. IDWeek 2023. Abstr 1026.

HBV Reactivation: At-Risk Population

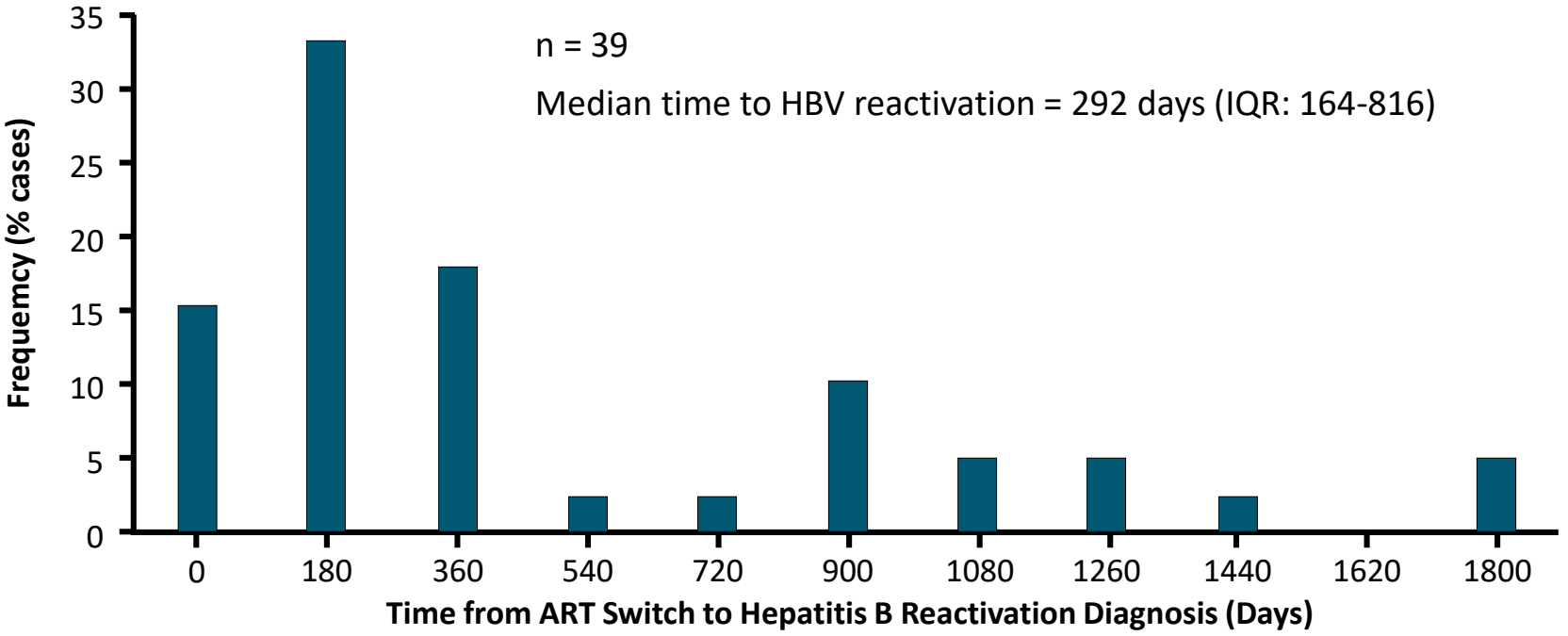
- 3495 participants had repeat HBsAg/HBV DNA results

Outcome	At-Risk Population (N = 5954)
HBV reactivation, n (%)	89 (1.5)
HBV reactivation with continuation of ART that lacked HBV activity, n (%)	39 (0.7)
ALT >100 IU/mL at HBV reactivation within 30 days, n/N	12/37*
Non–mental health hospitalization within 30 days of HBV reactivation, n/N	16/39
Initiated elbasvir/grazoprevir for HCV before HBV reactivation, n	1

*n = 2 with missing data.

Denyer. IDWeek 2023. Abstr 1026.

HBV Reactivation Over Time: Individuals Who Continued ART That Lacked HBV Activity



Denyer. IDWeek 2023. Abstr 1026. Reproduced with permission.

HBV Reactivation by HBV Serology Before ART Switch

Characteristic, n (%)	All HBV Reactivation Cases (n = 89)	HBV Reactivation Cases With Continuation of ART That Lacked HBV Activity (n = 39)
Without HBsAg+ or HBsAb+ (n = 1345)	38 (2.8)	16 (1.2)
Without HBsAg+ but with HBsAb+ (n = 4379)	41 (0.9)	18 (0.4)
With HBsAg+ but without HBsAb+ (n = 66)	7 (10.6)	4 (6.1)
With HBsAg+ and HBsAb+ (n = 164)	3 (1.8)	1 (0.6)

- Higher rates of HBV reactivation among:
  - Individuals **without** HBsAg+ or HBsAb+ vs **without** HBsAg+ but **with** HBsAb+ (*P* = .0012)
  - Individuals **without** HBsAg+ or HBsAb+ vs **with** HBsAg+ and HBsAb+ (*P* <.001)

Denyer. IDWeek 2023. Abstr 1026.

HBV Reactivation After Switch to ART Lacking HBV Activity

- In patients living with HIV and anti-HBc positivity, HBV reactivation occurred infrequently after switching to ART that lacked HBV activity
  - Compared with participants with isolated positive anti-HBc, lower HBV reactivation observed in those with positive HBsAb
- Participants with HBV reactivation less likely to be HIV virologically suppressed at time of ART switch
  - More data are needed to understand factors associated with HBV reactivation

Denyer. IDWeek 2023. Abstr 1026.

EASL 2025 - Recommandations

- Individuals with anti-HBs titres ≥100 IU/L 1-2 months after completion of the vaccination series do not require further monitoring and booster vaccination

- Exceptions include immunocompromised individuals, who should undergo a follow-up test for anti-HBs (and receive a booster vaccination if anti-HBs <100 IU/L).
  - Anti-HBs test intervals range from annually to every 10 years, depending on the risk

EASL 2025- Recommandations

- For risk groups with anti-HBs titres between 10 and 100 IU/L 1-2 months after completion of the vaccination series an additional booster dose is suggested, followed by reassessment of anti-HBs titres after 1-2 months **(LoE 3, weak recommendation, strong consensus).**

Vaccination Among PWH with isolated HBcAb positivity

- Presence of an anamnestic anti-HBs response following a single vaccine dose can help distinguish individuals with waning immunity than those lacking HBV immune memory to HBV and who may thus be at greater risk of HBV reactivation

- In the absence of an anamnestic response, a full vaccination schedule is warranted
- Higher response to HBV vaccination
  - with reinforced vaccination scheme strategies (**3–6 vaccine doses or triple double-dose** scheme)
  - with the newer cytosine phosphoguanine (CpG)-adjuvanted vaccine – higher response compared with traditional aluminum hydroxide adjuvanted vaccines

HBV reactivation

- Can cause severe, life-threatening hepatitis
- Cases of fulminant hepatitis requiring liver transplantation

Hepatitis B Infection or Reactivation After Switch to 2-Drug Antiretroviral Therapy: A Case Series – J of AIDS 2023

- 4 individuals with HBV infection or reactivation following switch to two-drug, non-HBV-active ART.

- Two had HBV susceptibility, 1 had core antibody reactivity, and 1 had surface antigen reactivity preswitch.

- All eligible persons had received HBV vaccination: 2 with low-level antibody response and 1 with persistent nonresponse.

- Two presented with fulminant hepatitis, with 1 required liver transplantation

Hepatitis B Virus Reactivation after Switch to Cabotegravir/Rilpivirine in Patient with Low Hepatitis B Surface Antibody

- A patient with HIV began antiretroviral therapy because of acute hepatitis B virus (HBV) 15 years ago, with low hepatitis B surface antibody

- Breakthrough HBV reactivation 4 months after switching from bictegravir/emtricitabine/tenofovir alafenamide to cabotegravir/rilpivirine.

- An immune escape mutation, E164V, identified in the isolated HBV DNA

  - Emerging Infectious Diseases 2024

Acute hepatitis B infections among PWH treated with 2-drug regimen: can we trust the vaccination status?- Todesco, E AIDS 2025

- Switch c-ART based TDF/FTC pour bithérapie DTG/RPV ou CAB/RPV – n=3
- AgHBs et Ac anti-HBc négatifs
- Vaccination VHB – au moins 3 doses dans les 3 cas
- CD4 > 450/mm3 dans les 3 cas
- Ac anti-HBs à 41 UI dans 1 cas et < 10 UI dans les 2 autres cas

Acute hepatitis B infections among PWH treated with 2-drug regimen: can we trust the vaccination status?- Todesco, E AIDS 2025

- Hépatite B aigue dans les 3 cas, dont 1 hospitalisé
- TTT par TDF ou entecavir
- Absence de séroconversion HBs à M12, M14 et M23 post-infection
- Chemsex n=2
- Séquençage – absence de mutation conférant un échappement aux Ac vaccinaux

Acute hepatitis B infections among PWH treated with 2-drug regimen: can we trust the vaccination status?- Todesco, E AIDS 2025

- Génotype F dans les 3 cas
- Prévalence élevée du génotype F en Amérique du Sud
- Vaccin développé à partir des génotypes A à D

CCL – EASL 2025- Obtenir un taux Ac anti-HBs > 100 avant switch avec ARV non actifs sur VHB

EACS guidelines 2023

- Discontinuation of HBV-active antiretrovirals should only be considered, “if there is HBV immunity (presence of HBsAb).”

- PWH with isolated hepatitis B core antibodies, relapse of HBV is possible, so transaminases and HBV DNA should be checked regularly

Preventive measures in order to reduce the risk of HBVr when switching to cART without HBV activity for PWH HBcAb+

- Exclude PWH with suboptimal immuno-virological status, such as low CD4 T-cell counts with detectable HIV RNA level
- Evaluate HBsAb titers. In PWH with low titers, particularly those with isolated HBcAb, vaccination is recommended
- Using a threshold of 100 IU/L to define HBV seroprotection instead of a threshold of 10 IU/L, in order to ensure sustained, long-term protection