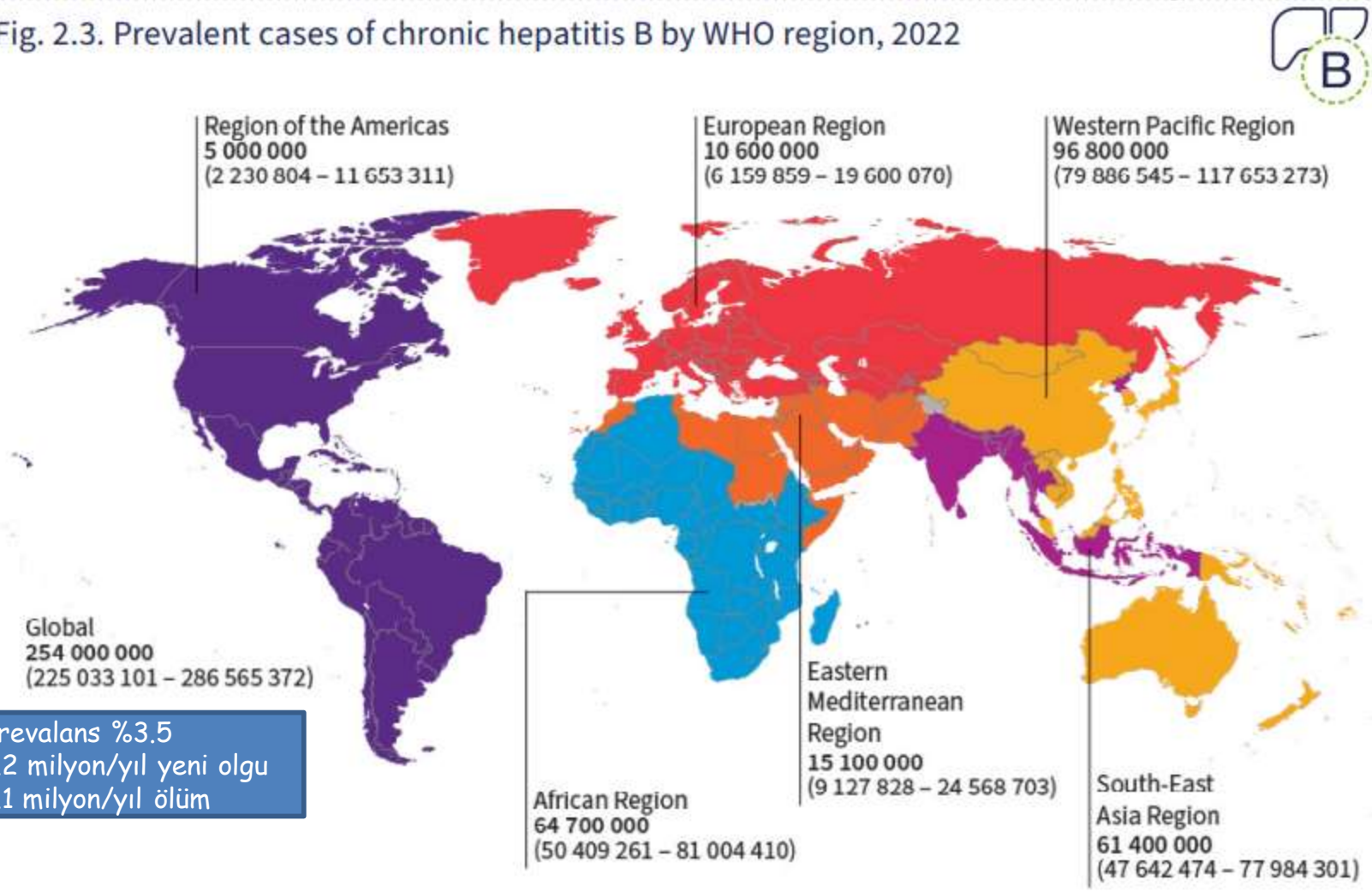
KRONİK HEPATİT B
KİMLERİ TEDAVİ EDELİM?
TAF: KİME, NE ZAMAN ?

Dr. Neşe DEMİRTÜRK
Afyonkarahisar Sağlık Bilimleri Üniversitesi Tıp Fakültesi
İnfeksiyon Hastalıkları ve Klinik Mikrobiyoloji AD.
Afyonkarahisar, 2024.

Fig. 2.3. Prevalent cases of chronic hepatitis B by WHO region, 2022



Prevalans %3.5
1.2 milyon/yıl yeni olgu
1.1 milyon/yıl ölüm

WHO, Global Hepatitis Report 2024

3 Only 13% of people living with chronic hepatitis B infection had been diagnosed and close to 3% had received antiviral therapy at the end of 2022. Only 36% of people living with hepatitis C had been diagnosed between 2015 and 2022, and 20% had received curative treatment, highlighting the opportunity for better linkage between diagnosis and provision of care. Overall, almost 7 million people were receiving hepatitis B treatment at the end of 2022 and 12.5 million people have received hepatitis C curative treatment, far below global targets.

ÜLKEMİZDE PREVALANS NASIL?

TABLE I. Soci

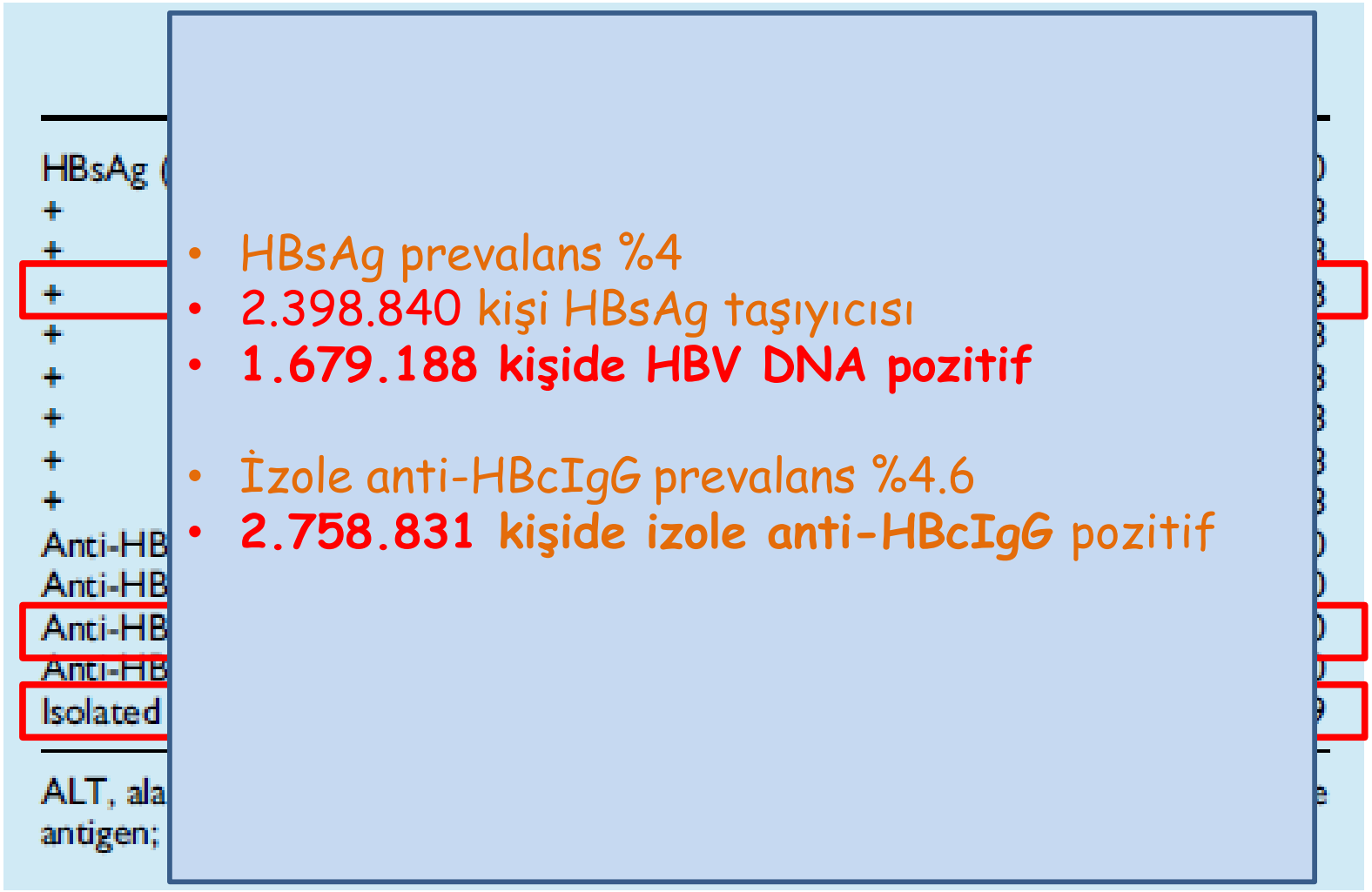
	All participants[a] n = 5460
Age (years), mean	40.8 (14.7)
Age group (years)	
18–29	1490 (27.3)
30–39	1375 (25.5)
40–49	1136 (21.0)
50–59	748 (13.9)
60–69	414 (7.6)
≥70	248 (4.7)
Gender, n (%)	
Female	2783 (51.0)
Male	2677 (49.0)
Educational status	
Less than high	3814 (70.0)
High school or	1645 (30.1)
High-risk professi	n = 5459
Healthcare wor	245 (4.5)
Marital status, n (%	
Married	4162 (76.2)
Single (unmarri	1298 (23.8)
and divorced)	
Place of residence	
Urban	3987 (75.0)
Rural	1475 (25.0)

HBsAg, hepatitis B
[a]Number with ava

- TÜİK Adrese dayalı nüfus kayıt sistemi sonuçları 2021 verilerine göre; >18 y nüfus sayısı **59.974.601**
- **HBsAg %4 prevalans**
- **2.398.840 kişi** HBsAg taşıyıcısı

Tözün N et al. CMI, 2015.

TABLE 2. Serological findings in relation to HBsAg and Anti-HBs positivity



KİMLERİ TEDAVİ EDİYORUZ ?

Virolojik ve biyokimyasal bulgular	Kronik İnfeksiyon		Kronik hepatit	
	HBeAg (+)	HBeAg (-)	HBeAg (+)	HBeAg (-)
HBsAg kantitasyonu	Yüksek	Düşük	Yüksek/orta	Orta
HBV DNA	>10^7IU/ml	<2000 IU/ml	10^4-0^7IU/ml	> 2000 IU/ml
ALT	Normal sınırlarda	Normal	Artmış	Artmış
Karaciğer histopatolojisinde değişim / karaciğer hasarı	Yok /minimal	Yok	Orta / şiddetli	Orta/şiddetli
Eski terminoloji	İmmüntoleran faz	İnaktif taşıyıcı	İmmün reaktivasyon fazı	Kronik hepatit

EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection. J Hepatol 2017;67:370-98.

Kronik Hepatit B İnfeksiyonunun Yönetimi: Türk Klinik Mikrobiyoloji ve İnfeksiyon Hastalıkları Derneği Viral Hepatit Çalışma Grubu Uzlaşı Raporu-2023 Güncellemesi

Tedavi Endikasyonları

Öneriler

1. HBeAg pozitif kronik infeksiyonlu hastalar (HBeAg pozitif, HBV DNA >10^7 İÜ/ml ve devamlı normal düzeyde ALT'si olanlar, genellikle 40 yaş altındadır) antiviral tedavi verilmeksizin izlenmelidir.
2. Normal ALT'si olup HBeAg pozitif kronik infeksiyon evresinde olduğu düşünülen olgularda, eğer hastanın yaşı >30-40 yıl ise, HBV DNA <10^7 İÜ/ml ise veya ALT düzeyi üst sınıra yakınsa invazif olmayan fibroz değerlendirme testleri veya karaciğer biyopsisi ile değerlendirme önerilir; söz konusu yöntemlerle orta-şiddetli nekroinflamasyon ve/veya orta-ciddi fibroz bulgusu elde edilirse antiviral tedavi başlanabilir.
3. HBeAg pozitif ya da negatif KHB infeksiyonlu hastalarda akut alevlenme gelişme durumunda antiviral tedavi mutlaka başlanmalıdır.

Öneriler

7. HBeAg pozitif ve HBV DNA düzeyi ≥20 000 İÜ/ml olan KHB hastaları ile HBeAg negatif ve HBV DNA düzeyi ≥2000 İÜ/ml olan KHB hastaları, ALT düzeyinden bağımsız olarak tedavi edilmelidir.
8. HBV DNA düzeyleri, ilk öneride belirtilen eşik değerlerin altında olan ancak ALT düzeyi >normalin üst sınırı x 1-2 kat olan hastalarda, karaciğer histolojisi biyopsi ya da invazif olmayan tanı testleri ile değerlendirilmeli ve karaciğerde orta-ağır düzeyde nekroinflamasyon ya da fibroz varlığında tedavi düşünülmelidir.

5.1 Recommendations

New recommendations – who to treat

Treatment is recommended for all adults and adolescents (aged
pregnant women and girls and non-pregnant women of reproc

1. Evidence of significant fibrosis (≥F2)[b] based on an A
elastography[c] value of >7 kPa or evidence of cirrhosis (F4
APRI score of >1 or transient elastography value of >12.
or ALT levels.

(adults: strong recommendation, moderate-certainty evidence; adolescents: strong recommendation, low-certainty evidence)

OR

2. HBV DNA >2000 IU/mL and an ALT level above the upper limit of normal (ULN) (30 U/L for men and boys and 19 U/L for women and girls). For adolescents, this should be based on ALT>ULN on at least two occasions in a 6- to 12-month period.[d]

(adults: strong recommendation, high-certainty evidence [HBV DNA >20 000 IU/mL] and low-certainty evidence [HBV DNA 2000–20 000,]; adolescents: conditional recommendation, low-certainty evidence)

OR

3. Presence of **coinfections** (such as HIV, hepatitis D or hepatitis C); **family history** of liver cancer or cirrhosis; **immune suppression** (such as long-term steroids, solid organ or stem cell transplant); **comorbidities** (such as diabetes or metabolic dysfunction—associated steatotic liver disease); or **extrahepatic manifestations** (such as glomerulonephritis or vasculitis), regardless of the APRI score or HBV DNA or ALT levels.

(adults: strong recommendation, moderate-certainty evidence; adolescents: conditional recommendation, low-certainty evidence)

OR

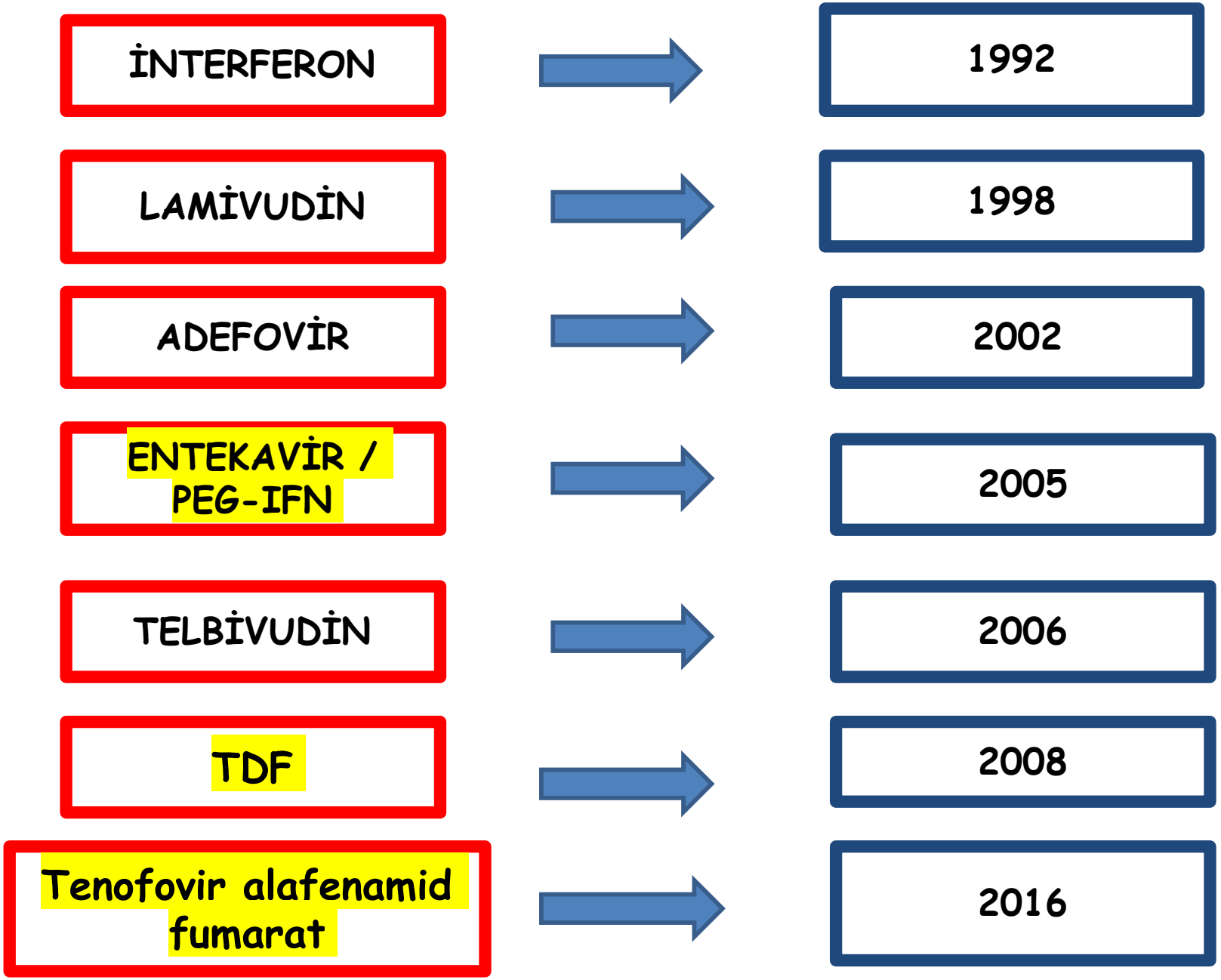
In the absence of access to an HBV DNA assay:

4. Persistently abnormal ALT levels (defined as two ALT values above the ULN at unspecified intervals during a 6- to 12-month period), regardless of APRI score.[e]

(adults and adolescents: conditional recommendation, very-low-certainty evidence)

Tedavi kararını belirleyen en önemli parametre KARACİĞER HİSTOLOJİSİ

Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection, WHO 2024.


İNTERFERON
1992
LAMİVUDİN
1998
ADEFOVİR
2002
ENTEKAVİR / PEG-IFN
2005
TELBİVUDİN
2006
TDF
2008
Tenofovir alafenamid fumarat
2016

NE İLE TEDAVİ ÖNERİYORUZ?

Klimik Dergisi 2023; 36(Özel Sayı 1): 1-22

Kronik Hepatit B İnfeksiyonunun Yönetimi: Türk Klinik Mikrobiyoloji ve İnfeksiyon Hastalıkları Derneği Viral Hepatit Çalışma Grubu Uzlaşı Raporu-2023 Güncellemesi

Öneriler

1. KHB tedavisinde, ilk seçenek olarak PEG-INF-α ya da genetik bariyeri yüksek NA kullanılır.
2. Antiviral direnç için yüksek genetik bariyerli ilaçlar; entekavir, TDF ve TAF olup; NA ile tedavi başlanacaksa, ilk seçenek bu ilaçlardan biri olmalıdır. Besifovir, ABD Gıda ve İlaç Dairesi (FDA) onaylı olmasına karşın henüz uluslararası rehberlerde ilk seçenek tedaviler arasında yer almamakta ve ülkemizde bulunmamaktadır.
3. Kompanse sirotik hastalarda, yüksek genetik bariyerli NA öncelikli olarak önerilir. Ancak karaciğer fonksiyonu iyi korunmuşsa, karaciğer fonksiyonlarının ve yan etkilerin yakın takibi koşulu ile PEG- INF-α da kullanılabilir.
4. Dekompanse sirotik hastalarda PEG- INF-α kontrendikedir.

Pegile interferonun hala yeri var mı ?

- HBeAg pozitif
- HBV genotip B veya C ile infekte
- Tedavi başlangıcında serum ALT düzeyleri yüksek ve HBV DNA düzeyleri düşük $<2x10^6$IU/ml
- Karaciğerde ileri düzeyde fibrozu olmayan
- Genç kadın hastalar

İlk seçenek antiviraller

- ENTEKAVİR
  - Nükleozid analoğu, viral DNA polimeraz inhibitörü
  - Potent etkili, tolerasyonu iyi
  - Direnç gelişme olasılığı <%1
  - Gebelik kategorisi C

- TENOFOVİR DİSOPROKSİL FUMARAT
- **TENOFOVİR ALAFENAMİD FUMARAT**
  - Nükleotid adenin analoğu, viral DNA polimeraz inhibitörü
  - Bugüne kadar bildirilmiş klinik direnç yok
  - Potent etkili, gebelik kategorisi B
    - TDF ile kemik mineral dansitesinde azalma, KK azalma, fosfatüri

Efficacy of Approved First-Line Antiviral Therapies in Adults with Treatment-Naïve Chronic Hepatitis B and Immune-Active Disease (Not Head-to-He Comparisons)

HBeAg Positive	Peg-IFN[1]	Entecavir[2]	Tenofovir Disoproxil Fumarate[2]	Tenofovir Alafenamide[3]
% HBV DNA suppression (cutoff to define HBV DNA suppression)[4]	30–42 (<2000–40,000 IU/mL) 8–14 (<80 IU/mL)	61 (<50–60 IU/mL)	76 (<60 IU/mL)	73 (<29 IU/mL)
% HBeAg loss	32–36	22–25	--	22
% HBeAg seroconversion	29–36	21–22	21	18
% Normalization ALT	34–52	68–81	68	--
% HBsAg loss	2–7 11 (at 3 years posttreatment)	2–3 4–5 (2 years)	3 8 (3 years)	1 (2 years)
HBeAg Negative	**Peg-IFN**	**Entecavir**	**Tenofovir Disoproxil Fumarate[2]**	**Tenofovir Alafenamide[3]**
% HBV DNA suppression (cutoff to define HBV DNA suppression)[5]	43 (<4000 IU/mL) 19 (<80 IU/mL)	90–91 (<50–60 IU/mL)	93 (<60 U/mL)	90 (<29 IU/mL)
% Normalization ALT[6]	59	78–88	76	81
% HBsAg loss	4 6 (at 3 years posttreatment)	0–1	0	<1

References: (6–16)

[1] Assessed 6 months after completion of 12 months of therapy

[2] Assessed after 3 years of continuous therapy

[3] Assessed after 2 years of continuous therapy

[4] HBV DNA <2000–40,000 IU/mL for peginterferon; <60 IU/mL for entecavir and tenofovir disoproxil fumarate; <29 IU/mL for tenofovir alafenamide

[5] HBV DNA <20,000 IU/mL for peginterferon; <60 IU/mL for entecavir and tenofovir disoproxil fumarate; <29 IU/mL for tenofovir alafenamide

[6] ALT normalization defined by laboratory normal rather than ≤35 and ≤25 U/L for males and females

Intervirology

Research Article

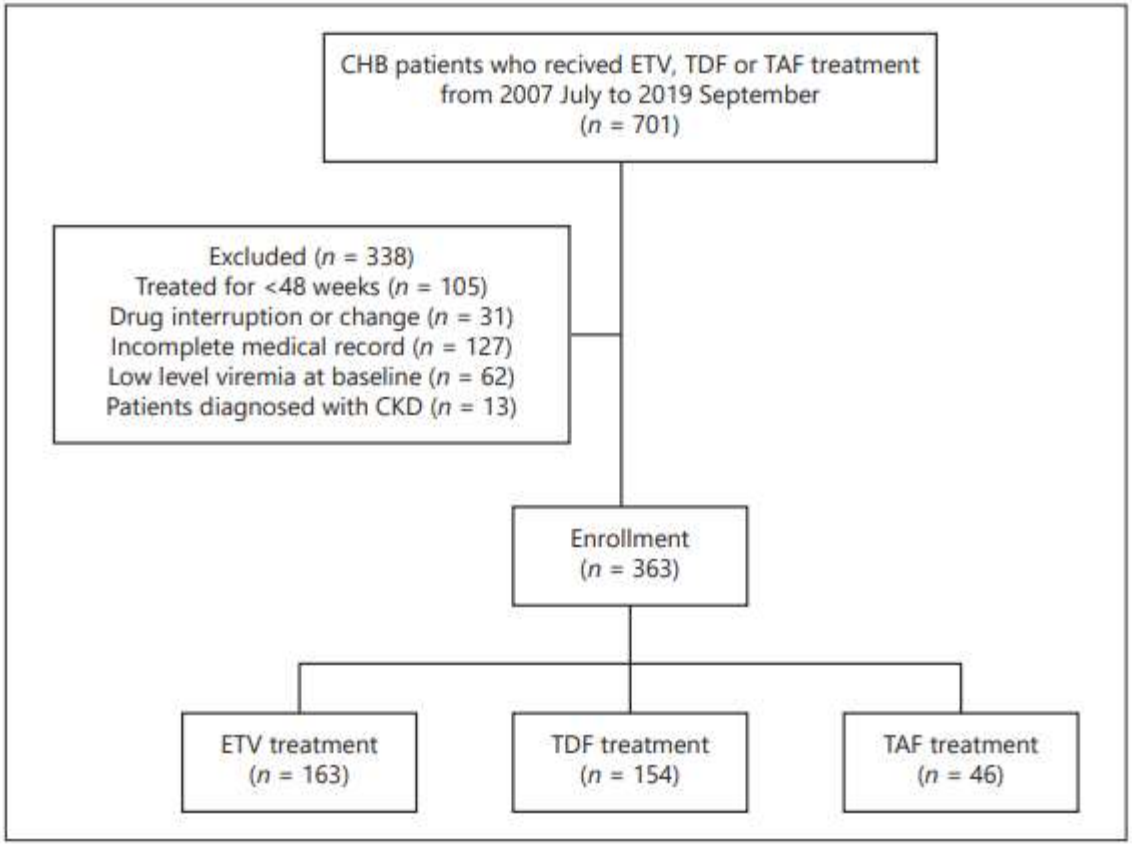
Intervirology 2022;65:94–103
DOI: 10.1159/000519440

Received: April 14, 2021
Accepted: August 30, 2021
Published online: November 3, 2021

Real-World Single-Center Comparison of the Safety and Efficacy of Entecavir, Tenofovir Disoproxil Fumarate, and Tenofovir Alafenamide in Patients with Chronic Hepatitis B

Sara Jeong Hyun Phil Shin Ha Il Kim

Department of Gastroenterology and Hepatology, Kyung Hee University College of
Hospital at Gangdong, Seoul, South Korea



Ortalama tedavi süresi 49 ay (27-74 ay arası)

Table 2. Comparison of safety and efficacy in laboratory parameters and LC-related complications between baseline and 48 weeks in the ETV, TDF, and TAF groups

	ETV (n = 163)	TDF (n = 154)	TAF (n = 46)	Total (n = 363)	p value
ΔCholesterol (mg/dL)	6 (−11~22)	−10 (−28.0~8)	5.50 (−22.25~30.75)	0.00 (−23.00–18.00)	0.000*
ΔALP, IU/L	−6.00 (−28.33~18.67)	−5.50 (−4.25~28.00)	−11.00 (−20.00~8.00)	−6.67 (−31.00~18.70)	0.826
ΔeGFR, mg/dL	−0.40 (−12.20~6.70)	−3.35 (−16.13~10.70)	1.90 (−6.73~15.19)	−0.50 (-12.3~8.60)	0.134
ΔeGFR ≥30%, n (%)	7 (4.3)	4 (2.6)	0 (0)	11 (3.0)	0.393
Complications of LC, n (%)	3 (1.8)	1 (0.7)	0 (0)	4 (1.1)	0.235
Varices	0 (0)	0 (0)	0 (0)	0 (0)	
Variceal bleeding	2 (66.7)	1 (100)	0 (0)	3 (75)	
Ascites	1 (33.3)	0 (0)	0 (0)	1 (25)	
SBP	0 (0)	0 (0)	0 (0)	0 (0)	
HE	0 (0)	0 (0)	0 (0)	0 (0)	
HBeAg seroconversion, n (%)	28/97 (26.8)	12/80 (15.0)	3/18 (16.7)	41/195 (21.0)	0.142
CVR, n (%)	128 (78.5)	127 (82.5)	35 (76.1)	288 (79.3)	0.538
ALT normalization, n (%)	133 (82.1)	117 (77.0)	36 (78.3)	286 (79.4)	0.520

ETV, entecavir; TDF, tenofovir disoproxil fumarate; TAF, tenofovir alafenamide; ALP, alkaline phosphatase; eGFR, estimated glomerular filtration rate; LC, liver cirrhosis; SBP, spontaneous bacterial peritonitis; HE, hepatic encephalopathy; CVR, complete viral response; ALT, alanine aminotransferase; HBeAg, hepatitis B e antigen. $p < 0.05$ is considered statistically significant.

48 haftalık tedavide siroz ve ilişkili komplikasyonlar açısından 3 grup arasında fark yok

Journal of Clinical and Translational Hepatology 2021 vol. 9(3) | 335–344
DOI: 10.14218/JCTH.2020.00164

Original Article

Tenofovir Alafenamide Fumarate, Tenofovir Disoproxil Fumarate and Entecavir: Which is the Most Effective Drug for Chronic Hepatitis B? A Systematic Review and Meta-analysis

Xuefeng Ma[1#], Shousheng Liu[2,3#], Mengke Wang[1], Yifen Wang[1], Shuixian Du[1], Yongning Xin[1,3*] and Shiying Xuan[1,3*]

[1]Department of Infectious Disease, Qingdao Municipal Hospital, Qingdao University, Qingdao, Shandong, China; [2]Clinical Research Center, Qingdao Municipal Hospital, Qingdao University, Qingdao, Shandong, China; [3]Digestive Disease Key Laboratory of Qingdao, Qingdao, Shandong, China

Received: 14 December 2020 | **Revised:** 23 January 2021 | **Accepted:** 9 March 2021 | **Published:** 29 March 2021

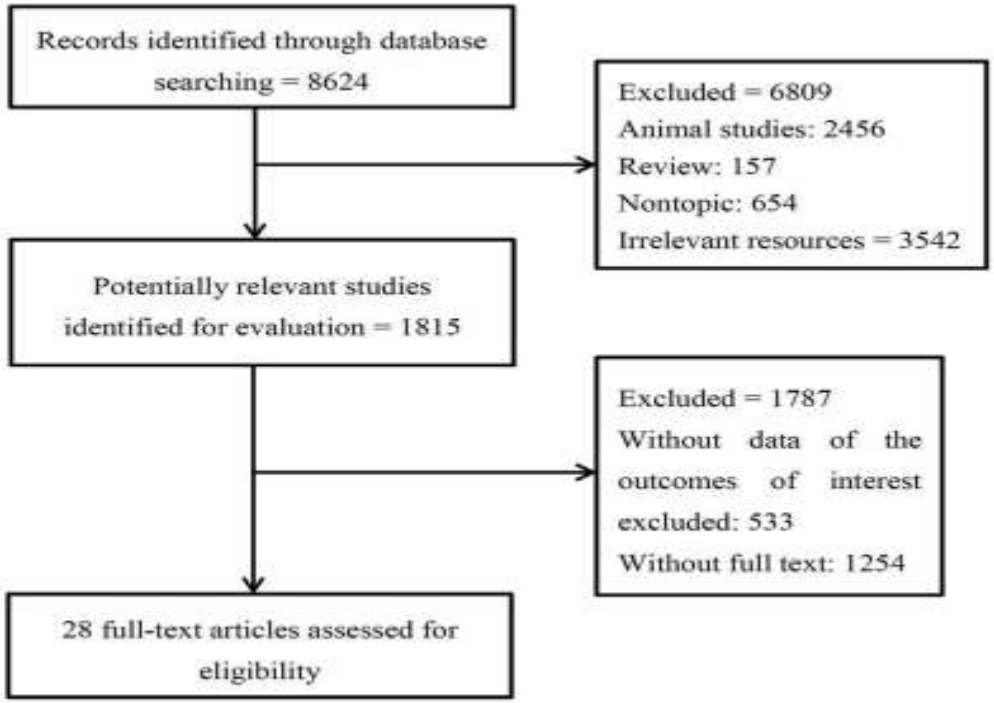


Fig. 1. Flow chart of the literature search process.

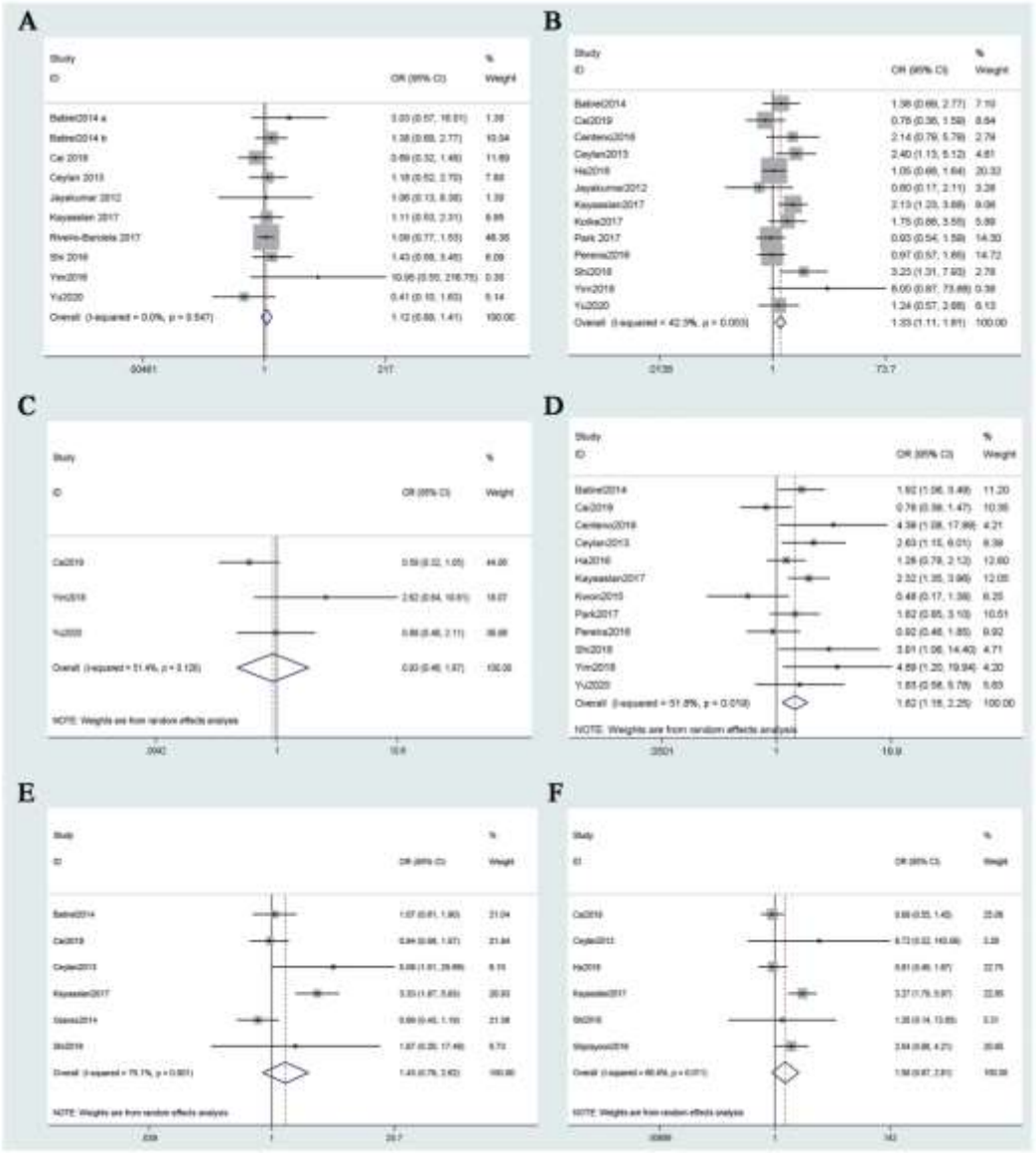


Fig. 3. Pooled odds ratios (ORs) of virological response in tenofovir disoproxil fumarate (TDF)-treated vs. entecavir (ETV)-treated chronic hepatitis B (CHB) patients. After (A) 12 weeks, (B) 24 weeks, (C) 36 weeks, (D) 48 weeks, (E) 72 weeks and (F) 96 weeks of treatment. CHB, chronic hepatitis B; ETV, entecavir; OR, odds ratio; TDF, tenofovir disoproxil fumarate.

Discussion

In this study, we systematically compared the therapeutic effect of TDF, TAF, ETV, and TDF+ETV on CHB patients. Our results suggest that in the TDF-treated CHB patients, the virological response was markedly superior to that of ETV-treated CHB patients after 12-, 24-, 48-, 72-, and 96-weeks treatment, which supports that TDF can be superior to ETV for the treatment of CHB patients. When compared to the therapeutic effect of TAF and TDF, no obvious difference was observed, which suggests that TAF is comparable to TDF for the treatment of CHB patients.

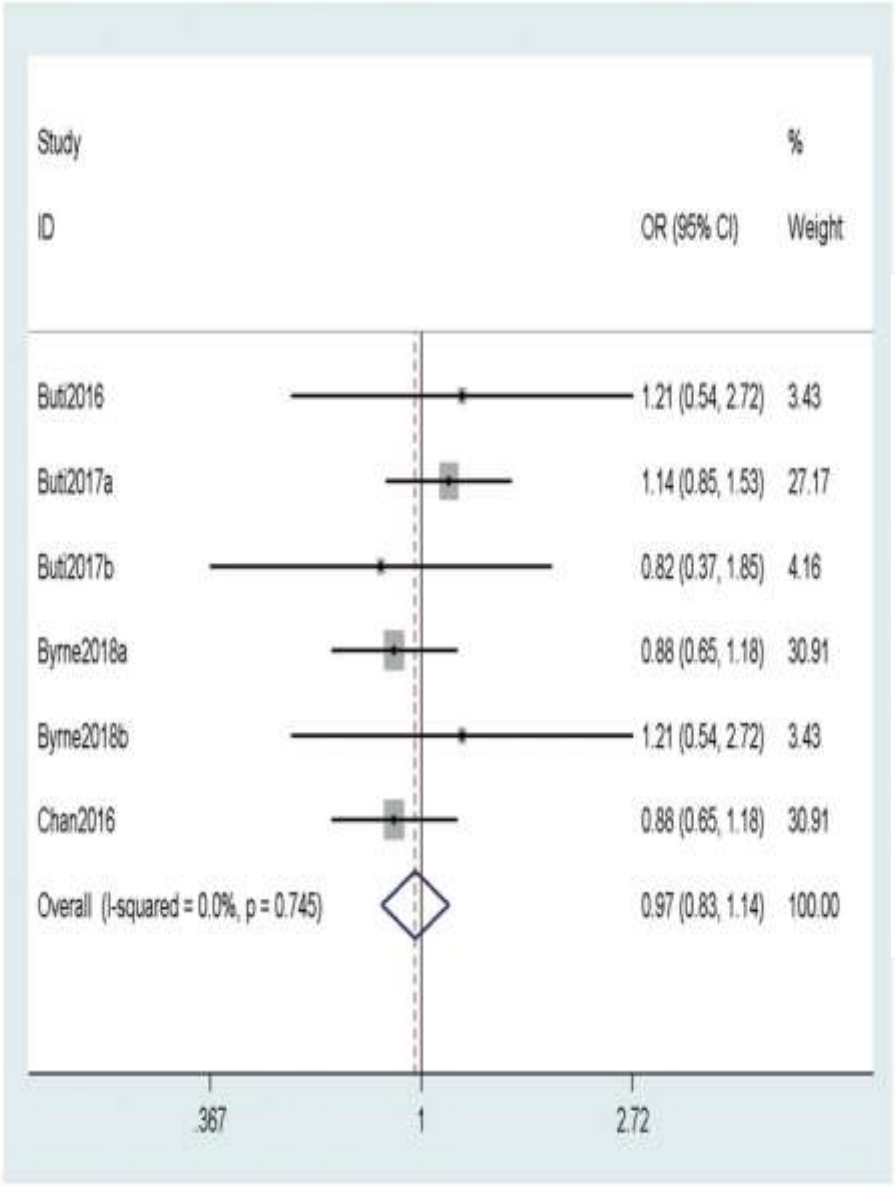


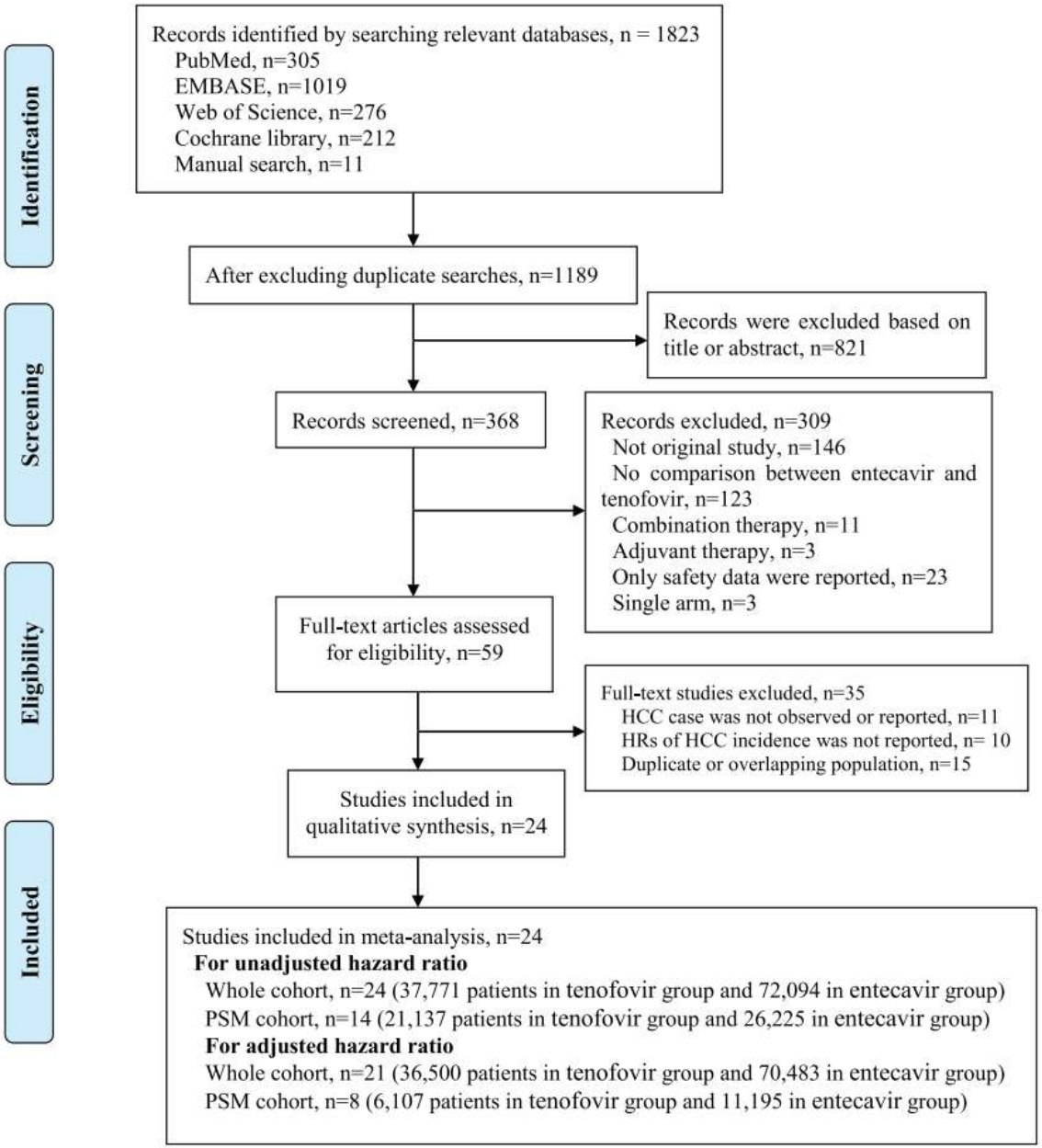
Fig. 4. Pooled OR of virological response in tenofovir alafenamide fumarate (TAF)-treated vs. TDF-treated CHB patients after 48 weeks of treatment.
CHB, chronic hepatitis B; OR, odds ratio; TAF, Tenofovir alafenamide fumarate; TDF, tenofovir disoproxil fumarate.

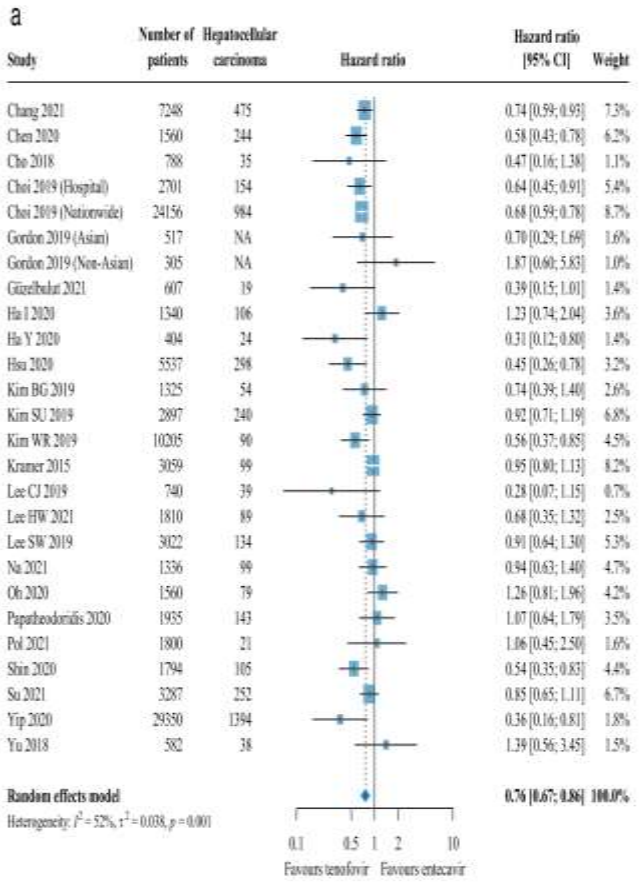
Discussion

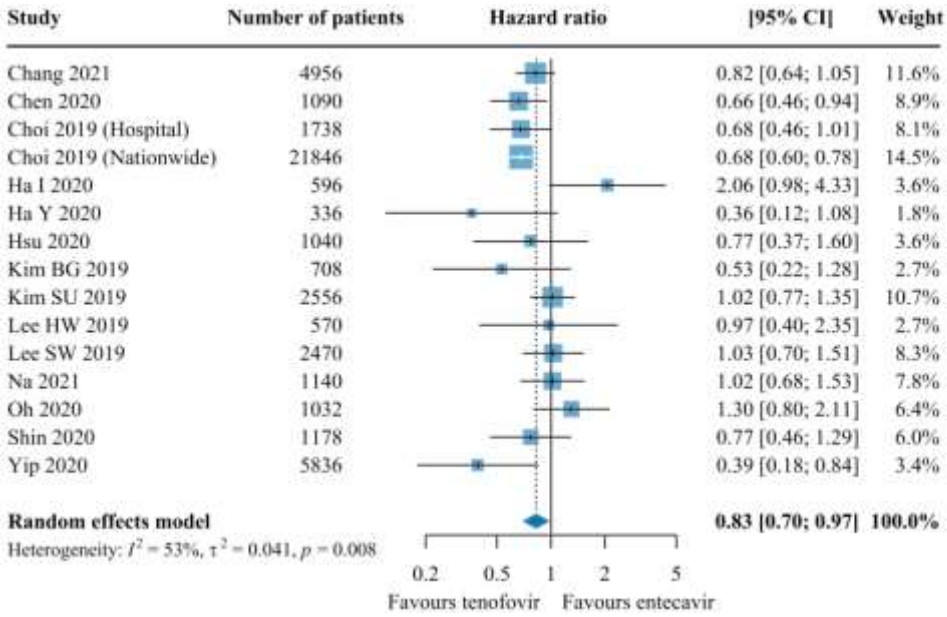
In this study, we systematically compared the therapeutic effect of TDF, TAF, ETV, and TDF+ETV on CHB patients. Our results suggest that in the TDF-treated CHB patients, the virological response was markedly superior to that of ETV-treated CHB patients after 12-, 24-, 48-, 72-, and 96-weeks treatment, which supports that TDF can be superior to ETV for the treatment of CHB patients. When compared to the therapeutic effect of TAF and TDF, no obvious difference was observed, which suggests that TAF is comparable to TDF for the treatment of CHB patients.

SYST
Lov
ent
an
Bao-H
Jian-H
*Depart
Treatme
of Gastr

epatology 37 (2022) 782–794
n Wiley & Sons Australia, Ltd







Conclusions

Our findings from a large CHB population suggest that TDF is associated with lower risk of HCC compared with ETV in patients with CHB, especially those who come from Asia and/or are naive to nucleos(t)ide analogues. Ideally, large randomized prospective studies of TDF and ETV therapy in Asian nucleos(t)ide-naïve CHB patients could confirm our findings. Finally, several parameters should be considered for the selection of the optimal therapeutic agent in CHB including not only the HCC risk but also the antiviral efficacy and safety profile of each drug for each subset of patients.

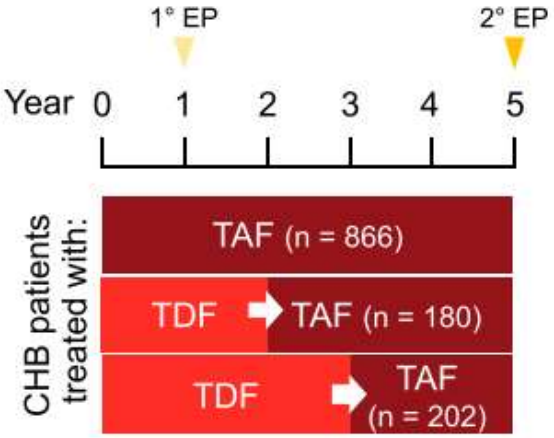
Long-Term Treatment With Tenofovir Alafenamide for Chronic Hepatitis B Results in High Rates of Viral Suppression and Favorable Renal and Bone Safety

Henry L.Y. Chan, MD[1], Maria Buti, MD, PhD[2], Young-Suk Lim, MD, PhD[3], Kosh Agarwal, MD[4], Patrick Marcellin, MD, PhD[5], Maurizia Brunetto, MD[6], Wan-Long Chuang, MD, PhD[7], Harry L.A. Janssen, MD, PhD[8,9], Scott Fung, MD, FRCPC[10], Namiki Izumi, MD, PhD[11], Dzhamal Abdurakhmanov, MD, PhD[12], Maciej Jabłkowski, MD, PhD[13], Mustafa K. Celen, MD[14], Xiaoli Ma, MD[15], Florin Caruntu, MD, PhD[16], John F. Flaherty, PharmD[17], Frida Abramov, DMSc, PA-C[17], Hongyuan Wang, PhD[17], Gregory Camus, PhD[17], Anu Osinusi, MD[17], Calvin Q. Pan, MD[18], Shalimar, MBBS[19], Wai-Kay Seto, MD[20] and Edward Gane, MBChB, MD[21], on behalf of the GS-US-320-0110 and GS-US-320-0108 investigators

Am J Gastroenterol. 2024. doi:10.14309/ajg.0000000000002468

AJG The American Journal of GASTROENTEROLOGY

Tenofovir Alafenamide (TAF) vs Tenofovir Disoproxil Fumarate (TDF) for Chronic Hepatitis B (CHB): 5-Year Results From 2 Phase 3 Studies



	HBV DNA <29 IU/mL	Change from baseline			
		Median eGFR (mL/min)		Mean (%) spine BMD	
	At Yr 5	Yr 1	Yr 5	Yr 1	Yr 5
TAF (n = 866)	85% (628/741)	−1.2	−2.4	−0.6	−0.3
TDF → TAF (n = 180)	83% (125/150)	−4.8	−2.9	−2.7	−1.1
TDF → TAF (n = 202)	90% (181/202)	−6.3	−4.9	−2.3	−0.7

Clinical Infect

MAJOR

Tenofo
Fumara
Hepati
and Me

Calvin Q. Pan,[1,2,a,

[1]Guangzhou Medical R
[2]Division of Gastroente
Infectious Disease and
Laboratory of Immune M
and [6]Quality Control De

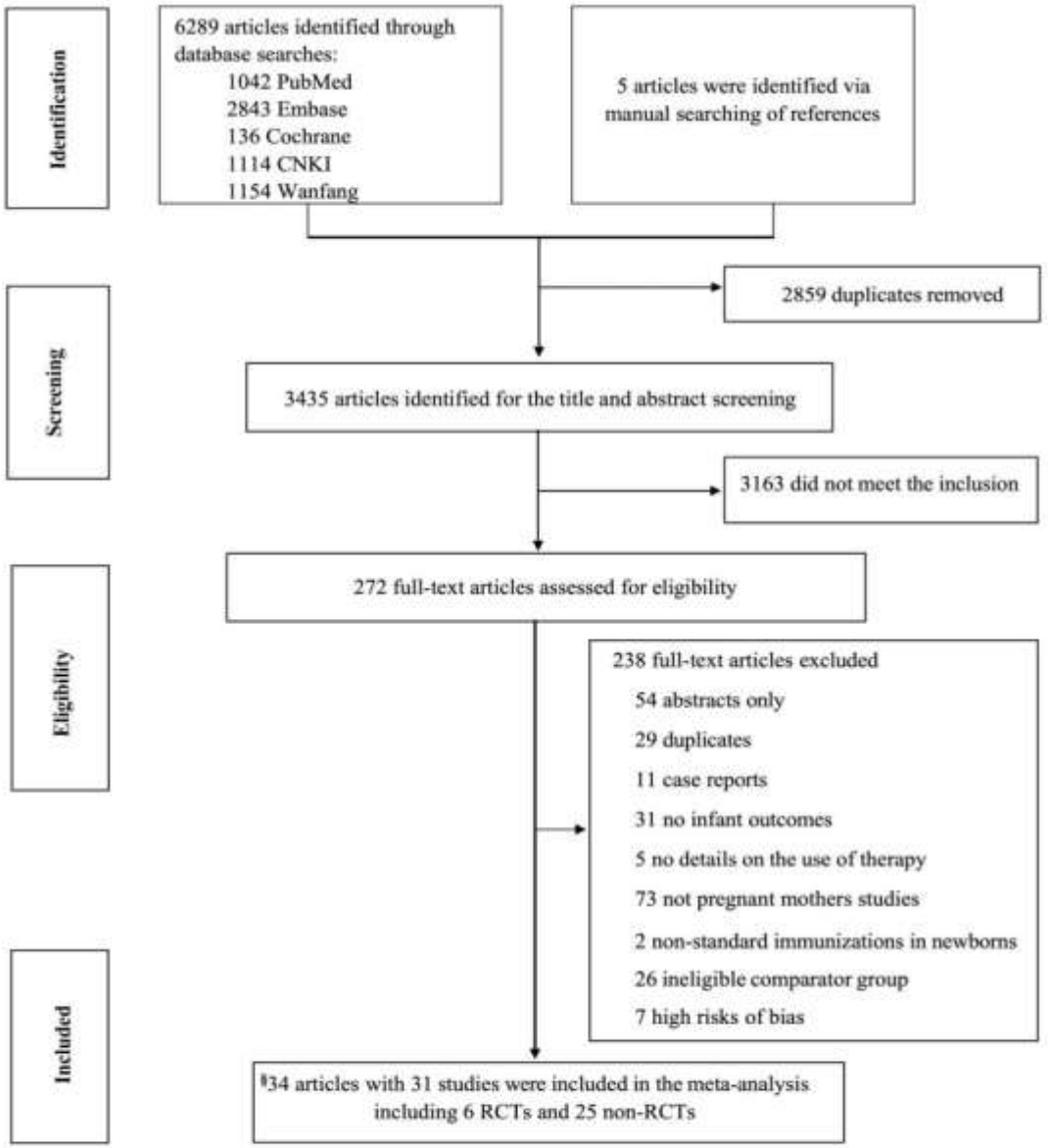
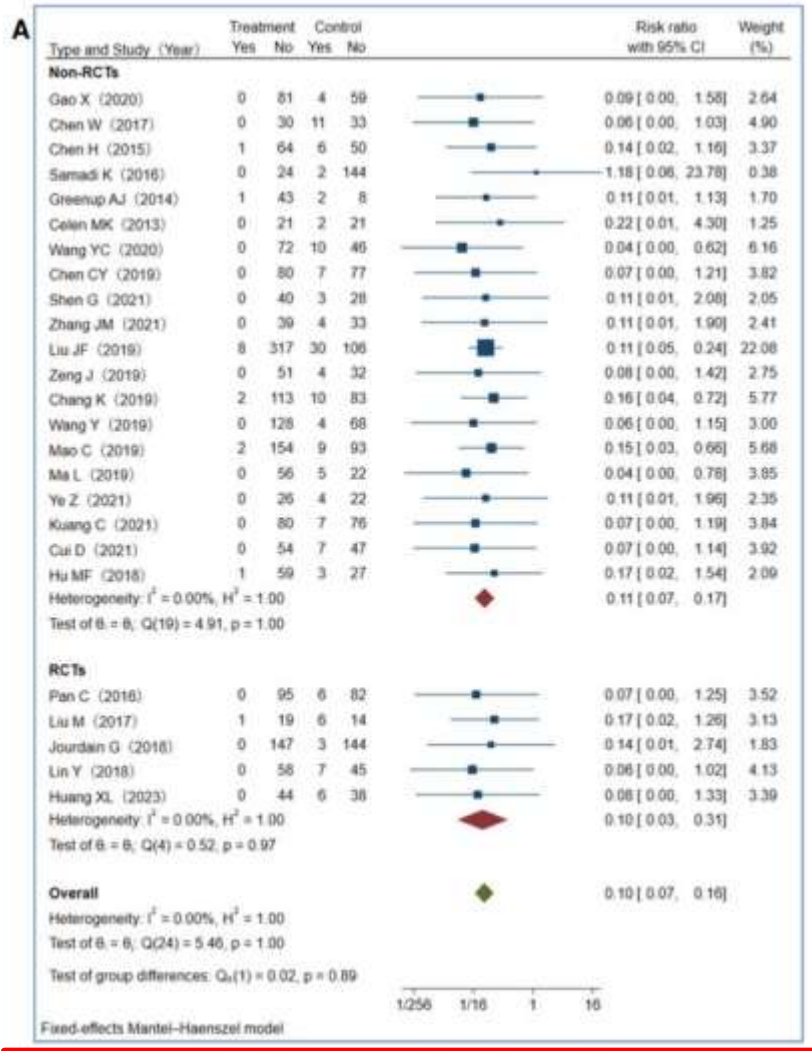
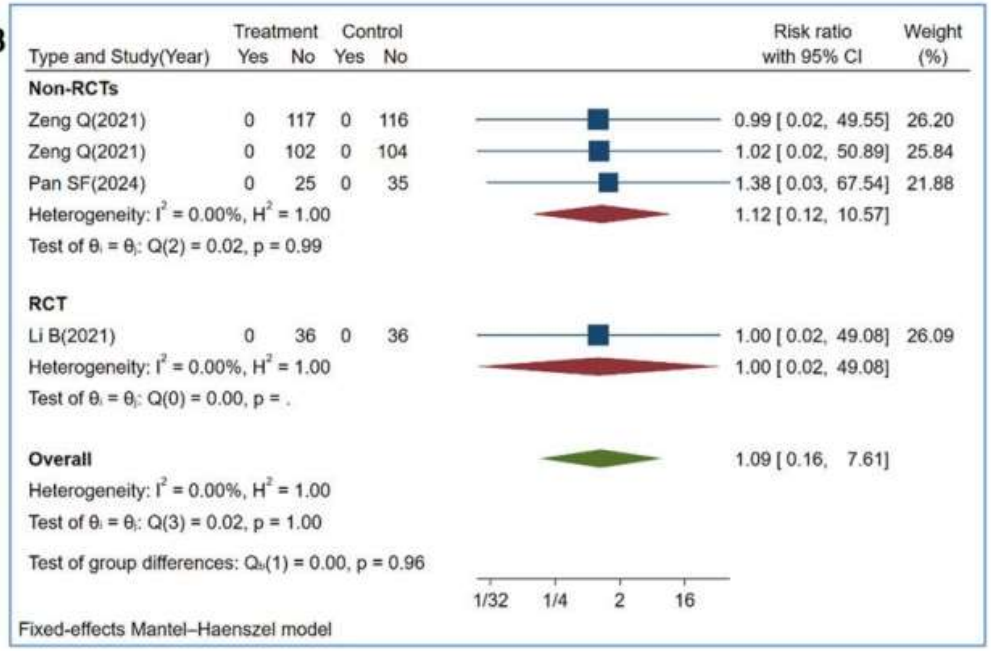


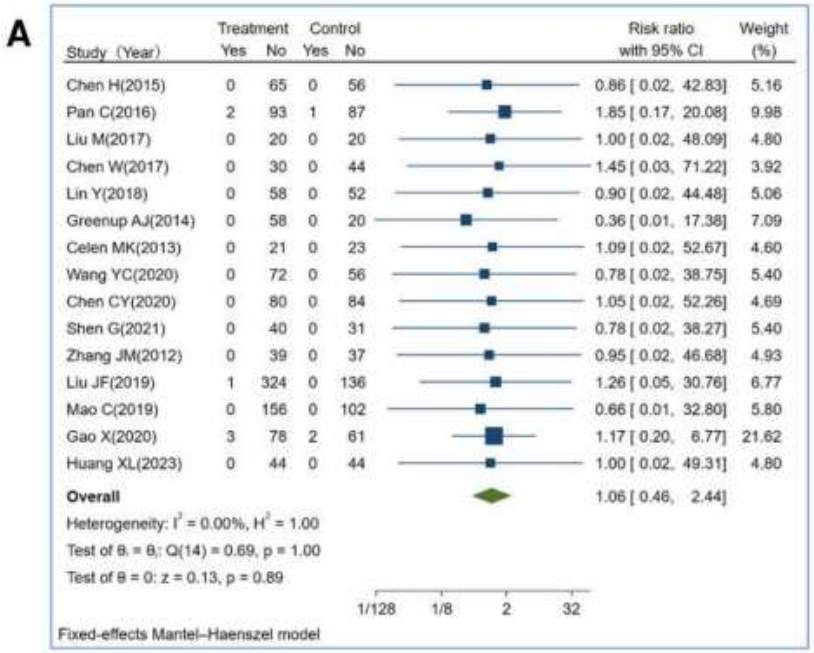
Figure 1. Study selection process. This figure depicts the data selection process for systematic review and meta-analysis through the search of multiple databases. A total of 6289 citations were identified across 5 databases. Following the application of inclusion and exclusion criteria, 31 studies were ultimately selected and included in the meta-analysis. § Three studies published both interim and long-term outcome reports (original articles) on the same cohorts. Abbreviations: non-RCTs, non-randomized controlled trials; RCTs, randomized controlled trials.

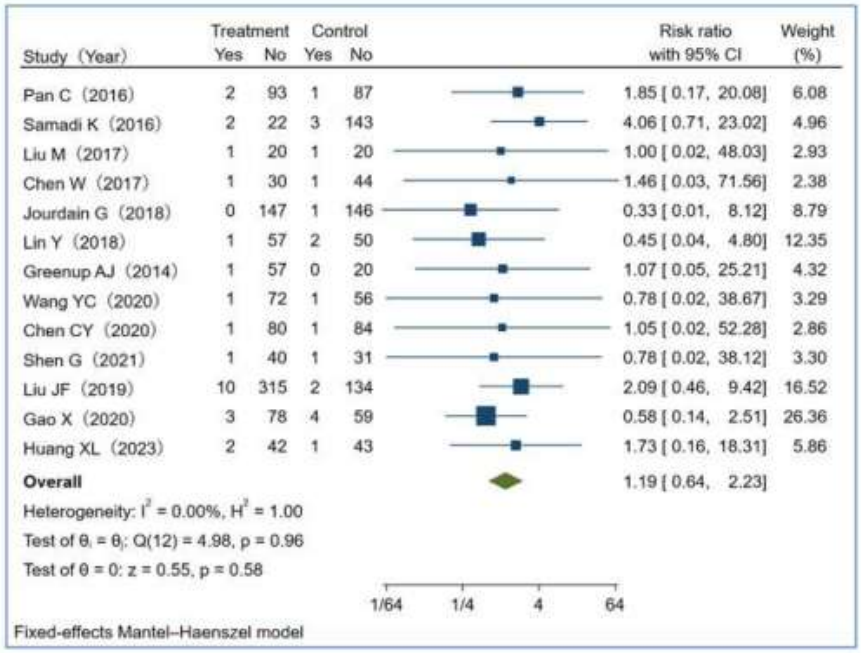


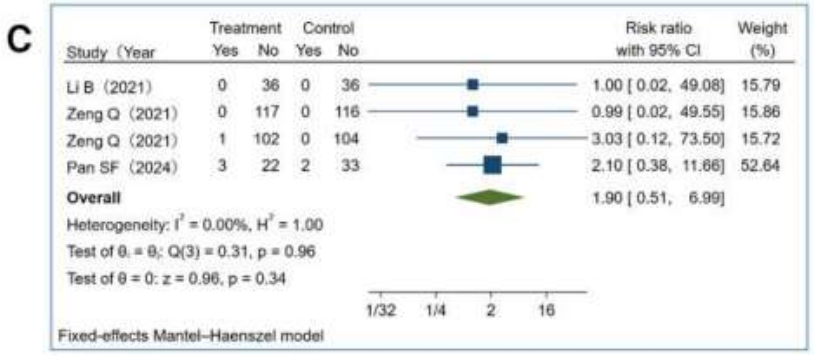


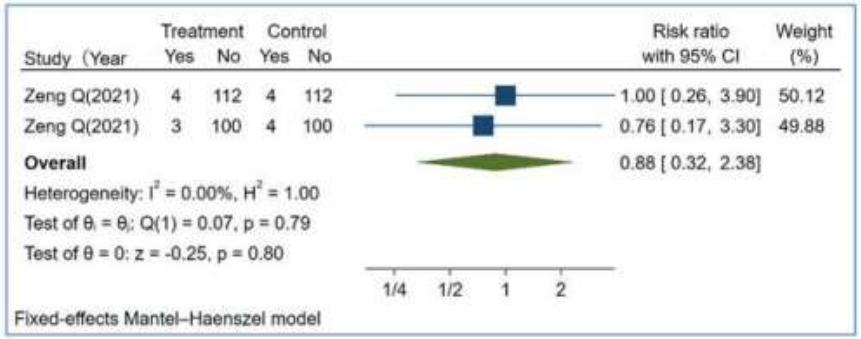
A: TDF alan hastalar B. TAF alan hastalar.

TDF ya TAF alanlarda plasebo ya da hiç tedavi alamayanlara göre anneden bebeğe bulaşmanın anlamlı düzeyde azaldığı; TDF ve TAF arasında bulaşmayı azaltma açısından fark bulunmadığı gösterilmiş.









A. Konjenital malformasyon TDF & kontrol
B. Prematürite TDF & kontrol
C. Konjenital malformasyon TDF & TAF
D. Prematürite TDF & TAF

International Journal of
Molecular Sciences

MDPI

Article

Efficacy and Renal Safety of Prophylactic Tenofovir Alafenamide for HBV-Infected Cancer Patients Undergoing Chemotherapy

I-Cheng Lee [1,2,*], Keng-Hsin Lan [1,3], Chien-Wei Su [1,2], Chung-Pin Li [1,2,4], Yee Chao [5], Han-Chieh Lin [1,2], Ming-Chih Hou [1,2] and Yi-Hsiang Huang [1,2,6,*]

Division of Gastroenterology and Hepatology, Department of Medicine, Taipei Veterans General Hospital, Taipei 112, Taiwan

Int. J. Mol. Sci. **2022**, *23*, 11335. https://doi.org/10.3390/ijms231911335

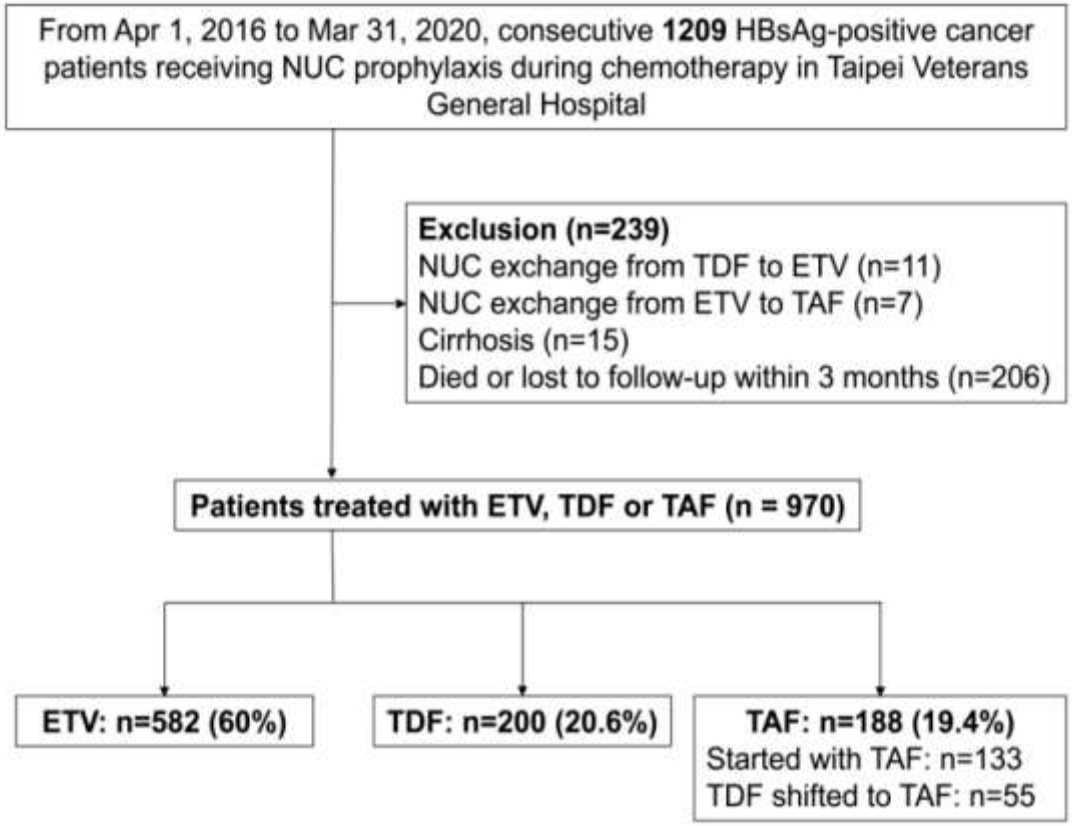


Figure 1. Screening, enrollment and grouping of patients.

Table 2. Antiviral efficacy and incidence of renal events at 1 year after starting NUC therapy in 686 patients with follow-up of more than 1 year.

Events, n (%)	ETV (n = 417, 60.8%)	TDF (n = 149, 21.7%)	TAF (n = 120, 17.5%)	*p*
Antiviral efficacy				
Virological response *	250 (94.7)	89 (94.7)	74 (96.1)	0.877
HBV reactivation	2 (0.5)	1 (0.7)	0 (0)	0.694
Renal events—all CKD stages				
Acute kidney injury	61 (14.6)	17 (11.4)	13 (10.8)	0.420
eGFR decrease > 30%	121 (29)	40 (26.8)	24 (20)	0.146
eGFR < 50 mL/min	101 (24.2)	13 (8.7)	16 (13.3)	<0.001
Dose reduction	14 (13.9)	5 (38.5)	-	0.041
≥1 stage worsening in CKD stage at 1 year	56 (13.4)	21 (14.1)	12 (10)	0.554
≥1 stage improvement in CKD stage at 1 year	52 (12.5)	15 (10.1)	14 (11.7)	0.737
Serum phosphorus < 2 mg/dL	64 (15.3)	17 (11.4)	14 (11.7)	0.367
Renal events—CKD stage 1				
Case number	213	85	62	
Acute kidney injury	25 (11.7)	9 (10.6)	4 (6.5)	0.491
eGFR decrease > 30%	58 (27.2)	25 (29.4)	8 (12.9)	0.044
eGFR < 50 mL/min	18 (8.5)	2 (2.4)	2 (3.2)	0.081
Dose reduction	1 (5.6)	1 (50)	-	0.195
≥1 stage worsening in CKD stage at 1 year	54 (25.4)	21 (24.7)	9 (14.5)	0.195
Serum phosphorus < 2 mg/dL	34 (16)	7 (8.2)	7 (11.3)	0.182
Renal events—CKD stage 2				
Case number	157	60	49	
Acute kidney injury	25 (15.9)	7 (11.7)	6 (12.2)	0.655
eGFR decrease > 30%	54 (34.4)	13 (21.7)	13 (26.5)	0.157
eGFR < 50 mL/min	45 (28.7)	8 (13.3)	8 (16.3)	0.027
Dose reduction	2 (4.4)	2 (25)	-	0.104
≥1 stage worsening in CKD stage at 1 year	1 (0.6)	0 (0)	2 (4.1)	0.088
≥1 stage improvement in CKD stage at 1 year	34 (21.7)	14 (23.3)	11 (22.4)	0.964
Serum phosphorus < 2 mg/dL	23 (14.6)	9 (15)	6 (12.2)	0.901
Renal events—CKD stage 3–5				
Case number	47	4	9	
Acute kidney injury	11 (23.4)	1 (25)	3 (33.3)	0.820
eGFR decrease > 30%	9 (19.1)	2 (50)	3 (33.3)	0.279
eGFR < 50 mL/min	38 (80.9)	3 (75)	6 (66.6)	0.630
Dose reduction	11 (28.9)	2 (66.7)	-	0.232
≥1 stage worsening in CKD stage at 1 year	1 (2.1)	0 (0)	1 (11.1)	0.361
≥1 stage improvement in CKD stage at 1 year	18 (38.3)	1 (25)	3 (33.3)	0.847
Serum phosphorus < 2 mg/dL	7 (14.9)	1 (25)	9 (100)	0.810

ETV, entecavir; TDF, tenofovir disoproxil fumarate; TAF, tenofovir alafenamide. * 435 (63.4%) patients had available follow-up HBV DNA data.

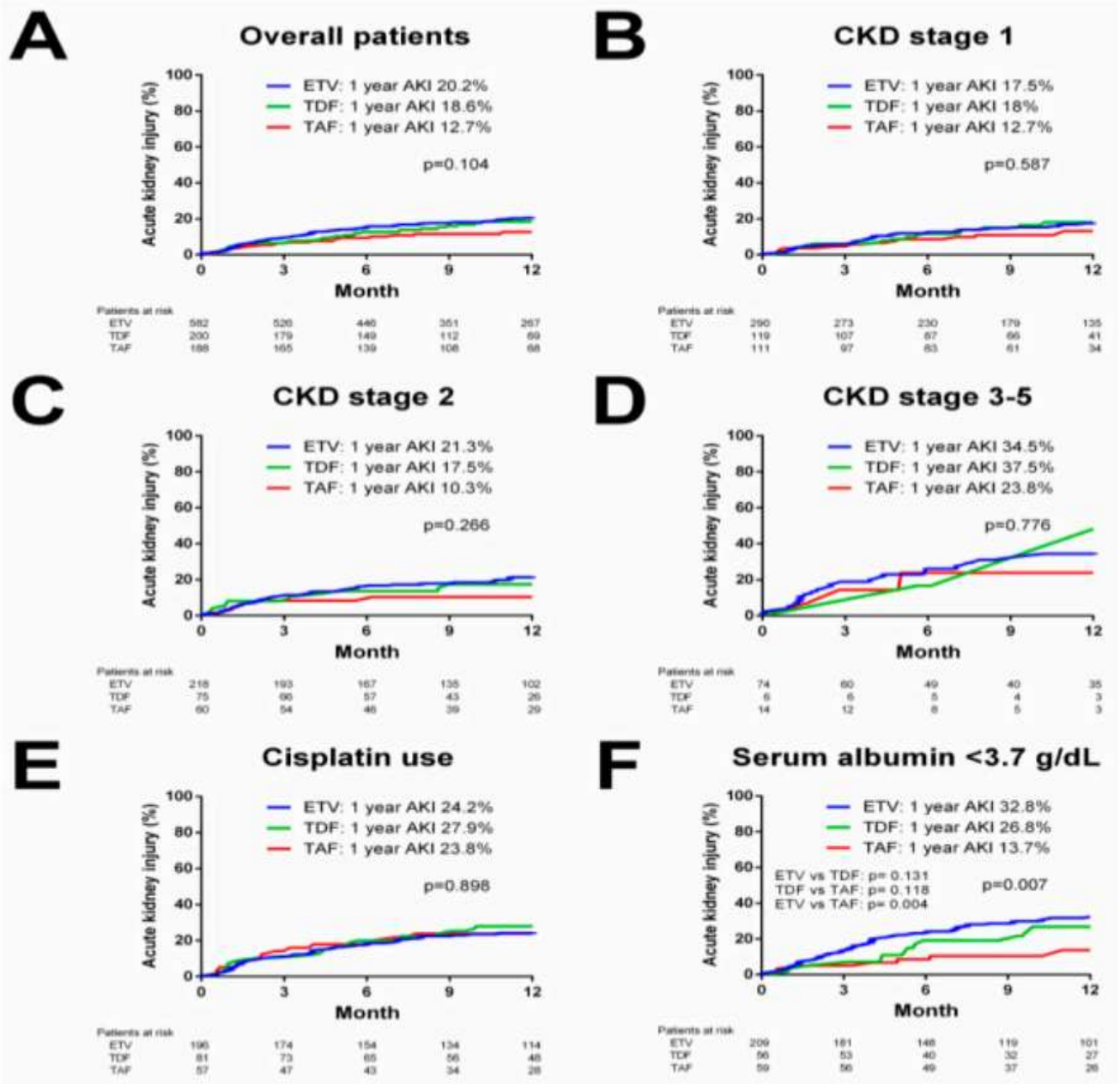

A
Overall patients
ETV: 1 year AKI 20.2%
TDF: 1 year AKI 18.6%
TAF: 1 year AKI 12.7%
p=0.104
Acute kidney injury (%)
Month
Patients at risk
ETV 582 526 446 351 267
TDF 200 179 149 112 69
TAF 168 165 139 108 68
B
CKD stage 1
ETV: 1 year AKI 17.5%
TDF: 1 year AKI 18%
TAF: 1 year AKI 12.7%
p=0.587
Acute kidney injury (%)
Month
Patients at risk
ETV 290 273 230 179 135
TDF 119 107 87 66 41
TAF 111 97 83 61 34
C
CKD stage 2
ETV: 1 year AKI 21.3%
TDF: 1 year AKI 17.5%
TAF: 1 year AKI 10.3%
p=0.266
Acute kidney injury (%)
Month
Patients at risk
ETV 218 193 167 135 102
TDF 75 66 57 43 26
TAF 60 54 46 39 29
D
CKD stage 3-5
ETV: 1 year AKI 34.5%
TDF: 1 year AKI 37.5%
TAF: 1 year AKI 23.8%
p=0.776
Acute kidney injury (%)
Month
Patients at risk
ETV 74 60 49 40 35
TDF 6 6 5 4 3
TAF 14 12 8 5 3
E
Cisplatin use
ETV: 1 year AKI 24.2%
TDF: 1 year AKI 27.9%
TAF: 1 year AKI 23.8%
p=0.898
Acute kidney injury (%)
Month
Patients at risk
ETV 196 174 154 134 114
TDF 81 73 65 56 46
TAF 57 47 43 34 28
F
Serum albumin <3.7 g/dL
ETV: 1 year AKI 32.8%
TDF: 1 year AKI 26.8%
TAF: 1 year AKI 13.7%
ETV vs TDF: p= 0.131
TDF vs TAF: p= 0.118
ETV vs TAF: p= 0.004
p=0.007
Acute kidney injury (%)
Month
Patients at risk
ETV 209 181 148 119 101
TDF 56 53 40 32 27
TAF 59 56 49 37 26

Table 4. Incidence of renal events at 1 year in 120 TAF-treated patients with follow-up of more than 1 year, with and without switching from TDF.

Renal Events, n (%)	No Switching (n = 75)	Switching from TDF (n = 45)	*p*
Acute kidney injury	8 (10.7)	5 (11.1)	1.000
eGFR decrease > 30%	18 (24)	6 (13.3)	0.239
eGFR < 50 mL/min	11 (14.7)	5 (11.1)	0.782
≥1 stage worsening in CKD stage at 1 year	7 (9.3)	5 (11.1)	0.762
≥1 stage improvement in CKD stage at 1 year	10 (13.3)	4 (8.9)	0.660
Serum phosphorus < 2 mg/dL	7 (9.3)	7 (15.6)	0.463

5. Conclusions

In conclusion, in HBV-infected cancer patients receiving chemotherapy, TAF had comparable antiviral efficacy to ETV and TDF. TAF also had relatively good renal safety and the advantage of not requiring dosage adjustment in the case of fluctuations in renal function, which could be frequently encountered during chemotherapy. Switching from TDF to TAF during chemotherapy is also safe, without a loss of efficacy.

Sonuç olarak…

- Viral yükü yüksek ve/veya karaciğerde fibroz başlamış tüm KHB hastaları tedavi edilmelidir.
- Tedavide ilk tercih NA antiviral ilaçlar olmalıdır.
- ETV & TDF & TAF arasında etkinlik açısından fark yoktur.
- TAF KHB tedavisi,reaktivasyon profilaksisi ve gebelikte etkin ve güvenli bir seçenektir.

TEŞEKKÜR EDERİM