Vemlidy® (tenofovir alafenamide) Comparison With Entecavir

This document is in response to your request for information regarding Vemlidy® (tenofovir alafenamide [TAF]) compared with entecavir (ETV) in adult patients with chronic hepatitis B (CHB).

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Summary

Comparison With ETV in Prospective and Retrospective Clinical Studies

The efficacy and safety of TAF vs ETV were evaluated in three prospective studies.[1-3]

- Participants treated with TAF demonstrated numerically but nonsignificantly greater rates of undetectable HBV DNA and ALT level normalization than those treated with ETV.[1]
- One study showed significantly lower percent decreases in HBsAg levels in TAF-treated participants than in ETV-treated participants.[3] Another study showed similar decreases in HBsAg levels between the two groups.[2]
- Changes in renal function and bone mineral density were not significantly different between those treated with TAF and those treated with ETV.[1,2]

In a retrospective study that compared the efficacy of TAF (n=700) with that of ETV (n=2368) in TN patients with CHB, TAF treatment resulted in higher rates of virologic response and complete response compared with ETV treatment (P<0.001 for each comparison). There were no between-group differences in biochemical response (P=0.48).[4]

In a retrospective real-world study that compared biochemical and virologic response rates between patients treated with TAF (n=270) and those treated with ETV (n=395), weighted biochemical response rates at Week 96 were 70.6% with TAF and 79.4% with ETV, and weighted virologic response rates at Week 96 were 90.1% with TAF and 88% with ETV. Viral breakthrough resulted in drug discontinuation in 1.9% of patients (n=5) in the TAF group and 2.3% of patients (n=9) in the ETV group.[5,6]

A retrospective cohort study examined the longitudinal changes in renal function in adult patients with CHB after they initiated TAF or ETV (PS-matched groups, n=578 per group). Over 4 years, the cumulative incidence of CKD progression by ≥1 stage was similar between treatment groups (PS-matched cohort, P=0.645; entire cohort, P=0.068).[7]

A retrospective cohort study was conducted to compare the risk of CKD progression in patients with CHB after they initiated TAF (n=108) compared with ETV (n=120). Over the

course of 12 months, 1 patient in each cohort experienced CKD progression of ≥1 stage for ≥3 months (*P*=0.893).[8]

In another retrospective study that compared renal function changes among TN patients with CHB who received TAF or ETV (PS-matched groups, n=76 in each), the risk of renal abnormality (eGFR <90 mL/min/1.73 m^2) was greater with ETV treatment than with TAF. Among patients who switched from ETV to TAF due to renal abnormalities, eGFR values improved after the switch in treatment.[9]

Comparison With ETV in Prospective and Retrospective Clinical Studies

TAF vs ETV and TDF in TN Participants With CHB[1]

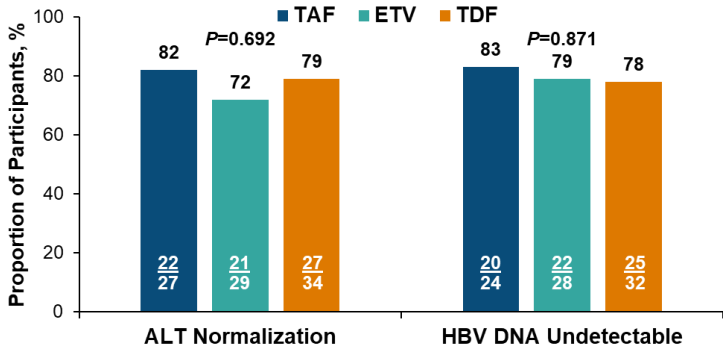
Study design

A prospective single-center study was conducted in China to examine the safety and efficacy of TAF compared with those of ETV and TDF in 116 TN participants with CHB. Patients were enrolled from December 2018 to May 2019 and received treatment with TAF (n=29), ETV (n=44), or TDF (n=43) for 48 weeks. Follow-up visits for safety and efficacy assessments occurred at Weeks 4, 12, 24, and 48.

Results

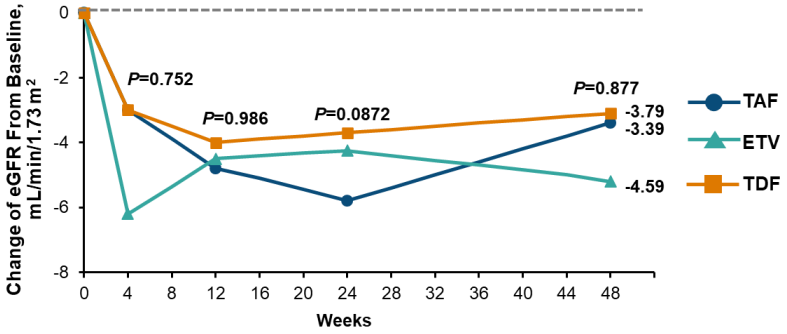
Efficacy outcomes at Week 48 are shown in Figure 1. At Week 48, the rate of ALT normalization was 82% in the TAF group, compared with 72% in the ETV group and 79% in the TDF group (*P*=0.692), and the proportion of participants with undetectable HBV DNA in the TAF group was numerically but not significantly higher than that in the ETV and TDF groups. The HBsAg level decreased from baseline in all three groups, but none of the groups showed a loss of HBsAg at Week 48.

Figure 1. Efficacy Outcomes at Week 48 (Zhang et al)[1]



From baseline to Week 48, SCr increased in the TAF group by 0.07 mcmol/L, compared with increases of 5.42 mcmol/L in the ETV group and 3.96 mcmol/L in the TDF group (*P*=0.526). There was no significant difference in the change in eGFR from baseline over time among the three groups (Figure 2). No treatment-related AEs were observed through Week 48.

Figure 2. Change in eGFR From Baseline by Treatment Group (Zhang et al)[1]



Switching From ETV to TAF vs Remaining on ETV[2]

Study design and demographics

A prospective, single-center, controlled, observational study was conducted in Japan to compare the long-term efficacy and safety of switching from ETV 0.5 mg once daily to TAF 25 mg once daily (n=48) with those of continuing ETV (n=32) in participants with CHB who had been taking ETV for ≥1 year. Participants were recruited between March 2017 and December 2020. Eligible participants had compensated liver disease, had not previously received treatment with NUCs prior to starting treatment with ETV, were positive for only genotype C HBV, had HBV DNA levels <1.3 $\log_{10}$ IU/mL, and had either HBsAg levels ≥800 IU/mL or HBsAg levels of 80 to 800 IU/mL with fluctuations prior to screening of no more than -0.1 $\log_{10}$ IU/mL per year. The primary endpoint was the change from baseline in serum HBsAg at 96 weeks. Baseline characteristics were similar between the study groups (all *P*-values ≥0.07; Table 1).

Table 1. Baseline Demographics and Disease Characteristics (Hagiwara et al)[2]

Key Characteristics and Demographics	ETV to TAF (n=48)	ETV Continuation (n=32)
Male, n (%)	17 (35)	15 (47)
Age, mean ± SD, years	59±12	5±11
HBeAg+, n (%)	4 (8)	3 (9)
HBsAg level, mean ± SD, log IU/mL	3.1±0.6	3.2±0.4
Change in HBsAg, mean ± SD, log IU/mL[a]	-0.029±0.05	-0.022±0.05
ALT, mean ± SD, IU/L	20±11	17±9
eGFR, mean ± SD, mL/min/1.73 m²	77±13	80±13

[a]In the year prior to study initiation.

Results

Mean serum levels of HBsAg decreased progressively in both groups from baseline to Week 96, and changes from baseline were similar between the ETV to TAF and ETV continuation groups at Week 48 (*P*=0.13) and Week 96 (*P*=0.93). Changes in HBsAg at Week 96 were also similar between treatment groups in analyses of various subgroups according to HBeAg status and levels of HBsAg, HBcrAg, and serum Mac-2 binding protein glycosylation isomer (a marker of cirrhosis) at baseline.

All participants in the ETV to TAF group maintained HBV DNA levels <1.3 $\log_{10}$ IU/mL, whereas 2 participants (6.3%) in the ETV continuation group had measurable HBV DNA levels during treatment (*P*=0.15). Changes in ALT, bone mineral density, and markers of

renal function were not significantly different between the ETV to TAF and the ETV continuation groups at Weeks 48 and 96.

TAF vs ETV After Switching From ETV to TAF[3]

Study design and demographics

A prospective single-center study was conducted in Japan to assess the efficacy (primarily the change in HBsAg level) and safety of TAF vs ETV in 129 participants with CHB who switched between March 2018 and June 2018 from ETV 0.5 mg once daily to TAF 25 mg once daily. The 129 study participants were followed up every 3 or 6 months for 1 year before the switch (ETV phase) and for 1 year after the switch (TAF phase) to analyze and compare changes in liver function, viral markers, and renal/biochemical parameters between the two phases.

Baseline characteristics were similar between the two phases. The median age of the participants was 62 years, and 49% were female. The median HBsAg level was 2.9 $\log_{10}$ IU/mL in each phase. The only parameter that was statistically significantly different between the ETV and TAF phases was the level of inorganic phosphorus (median, 3.2 vs 3.4 mg/dL, respectively; *P*=0.03).

Results

There were significantly lower percent decreases from baseline in HBsAg levels in the TAF phase than in the ETV phase at 6 and 12 months (*P*<0.0001 for both; Table 2). Multivariate analysis showed an independent association of TAF with a decrease in HBsAg level (OR: 4.7; 95% CI: 2.57–8.59; *P*<0.0001). The percent change from baseline in the HBcrAg level was not significantly different between the phases at 1 year (TAF: 0%; 95% CI: -2.85 to 0; ETV: 0%, 95% CI: -2.7 to 0; *P*=0.2084).

Table 2. Change in HBsAg Level at 6 and 12 Months in the TAF and ETV Phases (Kumada et al)[3]

Change in HBsAg Level, % (95% CI)	TAF Phase (n=129)	ETV Phase (n=129)	*P*-Value
Change from baseline at 6 months	-3.57 (-7.14 to 0)	-2.38 (-3.57 to 0)	<0.0001
Change from baseline at 12 months	-5.56 (-7.41 to -2.5)	-3.03 (-6.57 to 0)	<0.0001

No AEs were observed during either treatment phase. There were no significant differences between the TAF and ETV phases in the percent changes from baseline to 1 year in calcium (-1.1% vs 0%, respectively), inorganic phosphorus (3.67% vs -7.12%), or eGFR levels (-1.74% vs -1.97%).

Retrospective Study in TN Patients: TAF vs ETV

Study design and demographics[4,10]

A retrospective study compared the efficacy of TAF (n=700) vs ETV (n=2368) in TN patients with CHB from sites in Argentina, South Korea, Japan, mainland China, Taiwan, and the US. A competing-risks regression analysis was performed to evaluate virologic response (undetectable viral load), biochemical response (ALT normalization), and complete response (virologic and biochemical response). At baseline, patients in the ETV group had significantly higher HBV DNA and ALT levels than did those in the TAF group (Table 3).

Table 3. Baseline Demographics and Disease Characteristics (Li et al)[4]

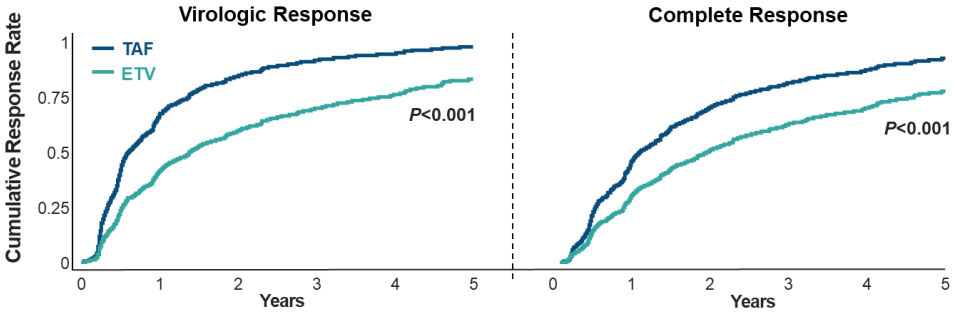
Key Demographics and Characteristics		TAF (n=700)	ETV (n=2368)	*P*-Value	Standardized Difference[a]
Age, mean ± SD, years		50.2±13.5	49.9±13.1	0.68	0.017
Male, n (%)		396 (56.6)	1494 (63.1)	0.002	0.13
Study region, n (%)	Asia	407 (58.1)	2102 (88.8)	<0.001	0.74
	Outside Asia	293 (41.9)	266 (11.2)		
HBV DNA, mean ± SD, log_{10} IU/mL		5.5±2	5.8±2	0.001	0.14
ALT level, median (range), IU/L		47 (29–98)	89 (39–193)	<0.001	0.31
ALT ≥2 × ULN, n (%)		274 (39.1)	1465 (61.9)	<0.001	0.47
HBeAg+, n (%)		187 (32.4)	888 (42.6)	<0.001	0.21
Fibrosis-4, n (%)	Low (<1.45)	271 (51.8)	714 (37.3)	<0.001	0.42
	Intermediate (1.45–3.25)	191 (36.5)	680 (35.5)		
	High (>3.25)	61 (11.7)	520 (27.2)		
Duration of follow-up, mean ± SD, years		3.1±1.7	5.6±4.2	<0.001	0.79

[a]Standardized difference values <0.1 indicated good balance in baseline characteristics and demographics, whereas values >0.1 indicated imbalance.
Note: Baseline demographics and characteristics were not available for each patient.

Results[4]

Overall, relative to the ETV group, the TAF group had significantly greater rates of virologic response and complete response at Year 5 (Figure 3). The rate of biochemical response did not differ between groups: TAF, 90.4%; ETV, 91.2% (*P*=0.48). After stratification by ALT levels (<2 × ULN vs ≥2 × ULN), each subgroup of patients who received TAF had higher rates of virologic response than those who received ETV (*P*<0.001, for each comparison): ALT <2 × ULN, 96.4% vs 77.2%, respectively; ALT ≥2 × ULN, 97.3% vs 86.8%. Similarly, rates of complete response were higher in the TAF group than in the ETV group (*P*<0.001, for each comparison): ALT <2 × ULN, 90.3% vs 70.4%, respectively; ALT ≥2 × ULN, 93.2% vs 79.9%.

Figure 3. Competing Risk Regression Analyses: Virologic Response and Complete Response (Li et al)[4]



After adjusting for confounders in a multivariate analysis, improved outcomes were observed with TAF vs ETV for virologic response (HR: 0.44; *P*<0.001) and complete response (HR: 0.52; *P*<0.001). Treatment benefit with TAF vs ETV was also observed according to ALT stratification for virologic response (ALT <2 × ULN: HR, 0.39; ALT ≥2 × ULN: HR, 0.49; *P*<0.001 for each) and complete response (ALT <2 × ULN: HR, 0.52; ALT ≥2 × ULN: HR, 0.48; *P*<0.001 for each).

Retrospective Study Comparing TAF, ETV, and TDF

Study design and demographics[5]

A multicenter, retrospective, real-world study in South Korea compared effectiveness outcomes among patients with CHB treated with TAF, ETV, or TDF. Included patients had received the treatment of interest for ≥3 months, were not co-infected with HCV or HIV, and did not have decompensated liver disease or hepatocellular carcinoma. Outcomes included the rate of biochemical response, defined as the achievement of normal levels of AST or ALT (≤35 IU/L in males and ≤25 IU/L in females), and the rate of virologic response, defined as the achievement of undetectable HBV DNA levels (<25 IU/mL). Analyses used IPTW to decrease bias and the impact of potential confounding clinical variables. After the IPTW, a time-dependent Cox proportional hazard model analyzed cumulative biochemical response rates during the antiviral treatment, and the virologic response at each time point was utilized as a time-dependent variable.

A total of 1282 TN patients with CHB were included in the study (TAF, n=270; ETV, n=395; TDF, n=617). Overall, relative to those who received TAF or TDF, patients who were treated with ETV were older and more frequently had diabetes mellitus, hypertension, CKD, and negative HBeAg status (Table 4).

Table 4. Baseline Demographics and Disease Characteristics (Kim et al)[5]

Key Characteristics and Demographics		TAF (n=270)	ETV (n=395)	TDF (n=617)
Duration of follow-up,[a] mean ± SD, weeks		114.1±31.4	157.5±87.2	173.1±86.5
Male,[a] n (%)		135 (50)	223 (56.5)	375 (60.8)
Age,[a] mean ± SD, years		47.5±11.6	55.1±11.5	50.1±11.7
HBV DNA,[a] mean ± SD, log IU/mL		6±2.1	5.3±2.1	5.9±2
HBeAg+,[a] n (%)		135 (51.7)	144 (39.9)	305 (57.2)
Cirrhosis, n (%)		74 (27.4)	107 (27.1)	161 (26.1)
ALT,[a] mean ± SD, IU/L		120.9±173.7	201.4±400.2	199.4±375.5
AST,[a] mean ± SD, IU/L		85±115.6	147.5±278.9	147.1±342.9
eGFR, mean ± SD, mL/min		99.9±64	95.4±28.8	98.6±19.7
Comorbid conditions, n (%)	Radiologic fatty liver	74 (27.6)	83 (21.7)	164 (27)
	Dyslipidemia[a]	22 (8.1)	46 (11.6)	44 (7.1)
	Hypertension[a]	19 (7)	80 (20.3)	92 (14.9)
	Diabetes mellitus[a]	10 (3.7)	39 (9.9)	35 (5.7)
	Stage ≥3 CKD[a]	3 (1.1)	16 (4.1)	5 (0.8)
	Bone disorder, osteoporosis[a]	0	7 (1.8)	21 (3.4)

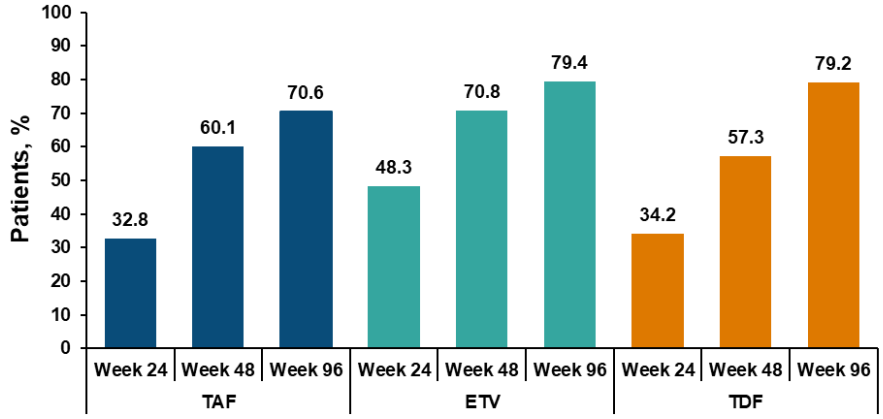
[a]*P*<0.05 for comparison of groups.

Results

In general, overall Week 96 biochemical response rates after weighting were highest in the ETV cohort, and overall Week 96 virologic response rates after weighting were slightly higher in the TAF cohort than in the ETV and TDF cohorts (Figure 4 and Figure 5).[6] Rates in subgroups according to HBeAg status are summarized in Table 5.[5,6] Univariable and multivariable Cox analyses were conducted after weighting to identify factors that affected biochemical response rates. According to univariable analyses, several factors, including the presence of cirrhosis (HR: 0.64; 95% CI: 0.55–0.76; *P*<0.001), radiologic fatty liver (HR: 0.8; 95% CI: 0.67–0.95; *P*=0.009), obesity without diabetes mellitus (HR: 0.73; 95% CI: 0.61–0.88; *P*=0.001), and diabetes mellitus without obesity (HR: 0.61; 95% CI: 0.41–0.93; *P*=0.021) were associated with lower response rates. In multivariable

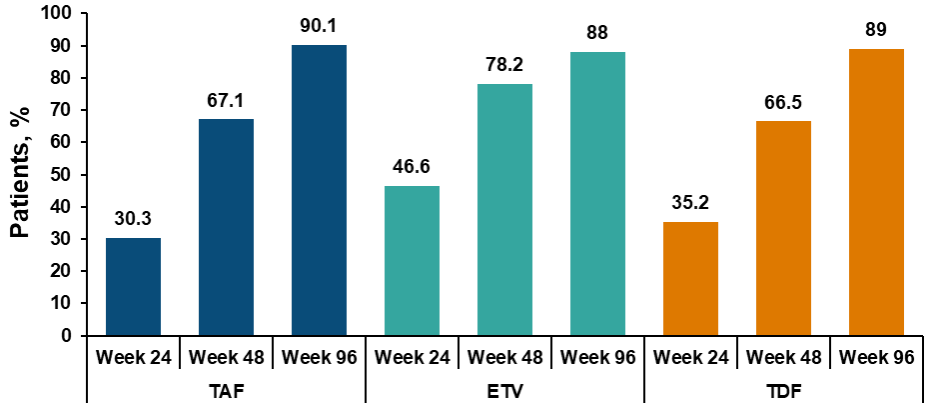
time-dependent analyses, radiologic fatty liver (HR: 0.75; 95% CI: 0.61–0.94; *P*=0.01) and obesity without diabetes mellitus (HR: 0.85; 95% CI: 0.68–0.989; *P*=0.036) were independently associated with lower response rates, whereas treatment with ETV was associated with higher response rates than treatment with TAF and TDF (HR: 1.38; 95% CI: 1.13–1.68; *P*=0.002).[5]

Figure 4. Weighted Biochemical Response Rates Through Week 96 (Kim et al)[6a]



[a]*P*=0.018 for comparison of groups.

Figure 5. Weighted Virologic Response Rates Through Week 96 (Kim et al)[6a]



[a]*P*=0.014 for comparison of groups.

Table 5. Weighted Response Rates Through Week 96 According to HBeAg Status (Kim et al)[5,6]

Response Rates, %		TAF (n=270)		ETV (n=395)		TDF (n=617)	
		HBeAg+	HBeAg-	HBeAg+	HBeAg-	HBeAg+	HBeAg-
Biochemical response[a]	Week 24	29.5	37.7	39.2	54.1	32.1	38
	Week 48	60.1	59.6	66.7	74.1	56.7	58.7
	Week 96	70.4	70.3	80.6	79.4	79.7	79.5
Virologic response[b]	Week 24	19.4	45	25.4	58.2	24.5	48
	Week 48	53.2	83.2	49.4	91.6	53.4	80.4
	Week 96	83.8	97.2	69.4	96.5	81.7	98.7

[a]*P*=0.068 among HBeAg+ patients and *P*<0.001 among HBeAg- patients for comparison of groups.
[b]*P*=0.321 among HBeAg+ patients and *P*=0.05 among HBeAg- patients for comparison of groups.

The proportion of patients who discontinued drug therapy was lower in the TAF cohort (8.1%) than in the ETV (12.7%) and TDF cohorts (14.9%; *P*=0.021). Most discontinuations in all three cohorts were due to loss to follow-up; viral breakthrough resulted in drug

discontinuation in 4.5% of patients (n=28) in the TDF cohort (primarily due to incomplete adherence [n=24]), 2.3% of patients (n=9) in the ETV cohort (reasons for viral breakthrough: incomplete adherence, n=5; drug-resistant mutation, n=4), and 1.9% of patients (n=5) in the TAF cohort (*P*=0.048).[5]

Retrospective Cohort Study: TAF vs ETV and Renal Dysfunction Risk[7]

Study design and demographics

A single-center, retrospective cohort study in South Korea was conducted to examine the longitudinal changes in renal function in adult patients with CHB who had not previously received treatment with NUCs before they started treatment with ETV or TAF. Eligible patients were HBsAg+ for >6 months with no history of HCC or non-HCC malignancy. Patients with <3 months of follow-up and patients with Stage 5 CKD, HCV, HDV, HIV, or missing eGFR data at baseline were excluded. The primary endpoint was the incidence of CKD progression by ≥1 stage. To minimize baseline characteristic differences, PS matching was conducted.

The entire cohort comprised 708 patients in the TAF group and 2635 patients in the ETV group. Compared with the ETV group, the TAF group had significantly fewer males (61.8% vs 55.5%, respectively, *P*=0.03); fewer patients with diabetes (7.9% vs 4.4%, respectively, *P*<0.01) or liver cirrhosis (52.4% vs 38.1%, respectively, *P*<0.01); and significantly higher median HBV DNA levels (5.3 vs 5.8 $\log_{10}$ IU/mL, respectively, *P*<0.01), ALT levels (46 vs 61 IU/L, respectively, *P*<0.01), AST levels (48 vs 52 IU/L, respectively, *P*=0.01), and eGFR (81 vs 90 mL/min/1.73 m^2, respectively, *P*<0.01).

In the PS-matched cohort, baseline characteristics were similar between the TAF (n=578) and ETV (n=578) treatment groups. The median age was approximately 50 years in both groups, 55% and 55.6% were male, respectively, and the median HBV DNA levels were 5.5 and 5.6 $\log_{10}$ IU/mL. The following comorbidities were reported in the TAF and ETV groups: cirrhosis, 39.3% and 43.3%, respectively; diabetes, 4.7% each; and hypertension, 4.7% and 5.2%.

Results

Over 4 years, the cumulative incidence of CKD progression by ≥1 stage was similar between treatment groups in the entire cohort (*P*=0.068) and in the PS-matched cohort (aHR for TAF vs ETV, 0.86; 95% CI: 0.45–1.64; *P*=0.645).

Factors significantly associated with decreased renal function are presented in Table 6.

Table 6. Variables Associated With the Risk of Decreased Kidney Function (Lee et al)[7]

Variable	Multivariate Analysis		
	aHR	95% CI	*P*-Value
Age, 1 year per increase	1.06	1.04–1.08	<0.05
Male sex	0.21	0.13–0.35	<0.05
Platelet count <100,000/mcL	1	0.99–1	0.054
Albumin	0.36	0.29–0.46	<0.05
BMI	1.18	1.03–1.31	0.013
Hypertension	2.65	1.79–3.94	<0.05
Diabetes mellitus	5.52	3.96–7.69	<0.05

Safety data were not reported.

Retrospective Study: TAF vs ETV and CKD Progression[8]

Study design and demographics

A retrospective cohort study in Hong Kong was conducted to compare the risk of CKD progression in patients receiving TAF compared with ETV-treated patients. Eligible patients had CHB with Stage 2 CKD (eGFR 60–89 mL/min/1.73 m^2) or higher and had recently initiated TAF or ETV. The cumulative incidence of CKD progression at 12 months was the primary endpoint. In total, 228 patients were included in the analysis; 68% (n=155) were male, and the mean ± SD age was 60±12.9 years. There were 108 patients who received TAF, with a baseline mean ± SD eGFR of 77.1±8.3 mL/min/1.73 m^2, and 120 patients who received ETV, with a baseline mean ± SD eGFR of 79.3±7.4 mL/min/1.73 m^2.

Interim results

One patient in each cohort experienced CKD progression of ≥1 stage for ≥3 consecutive months; this progression began between 1 and 2 months after initiating TAF and between 3 and 4 months after initiating ETV. The cumulative incidence of CKD progression at 12 months was similar between treatment groups (*P*=0.893).

Retrospective Study in TN Patients: Effect of TAF vs ETV on Renal Function[9]

Study design and demographics

A retrospective study compared the renal safety of treatment with TAF (n=78) or ETV (n=112) in TN patients with CHB. Eligible patients received treatment for ≥48 weeks between September 2019 and November 2023. At Week 48, post-treatment eGFR values and the incidence of abnormal renal function (eGFR <90 mL/min/1.73 m^2) were compared between treatments. After 1:1 PS matching, 76 patients were in each group; baseline demographics were similar between groups (Table 7).

Table 7. PS-Matched Baseline Demographics and Disease Characteristics (Liang et al)[9]

Key Demographics and Characteristics	TAF (n=76)	ETV (n=76)
Age, years	34 (28, 41)	37 (29, 44)
Male, n (%)	47 (61.8)	42 (55.3)
HBV DNA, log_{10} IU/mL	5.48 (3.8, 7.74)	6.16 (3.86, 7.68)
HBsAg, log_{10} IU/mL	3.68 (2.83, 4.33)	3.41 (2.97, 3.95)
HBeAg+, n (%)	47 (61.8)	43 (56.6)
Liver stiffness measurement, kPa	6.3 (5.5, 9.95)	7 (6.1, 10.3)
ALT level, U/L	64.6 (28.6, 148.6)	37 (28.8, 77.5)
SCr, mcmol/L	67.7 (52.75, 77.95)	69.2 (56.1, 76.7)
eGFR, mL/min/1.73 m^2	115.39±12.8	114.49±11.6

Note: The presentation of data was not specified (eg, mean ± SD, median [Q1, Q3]).

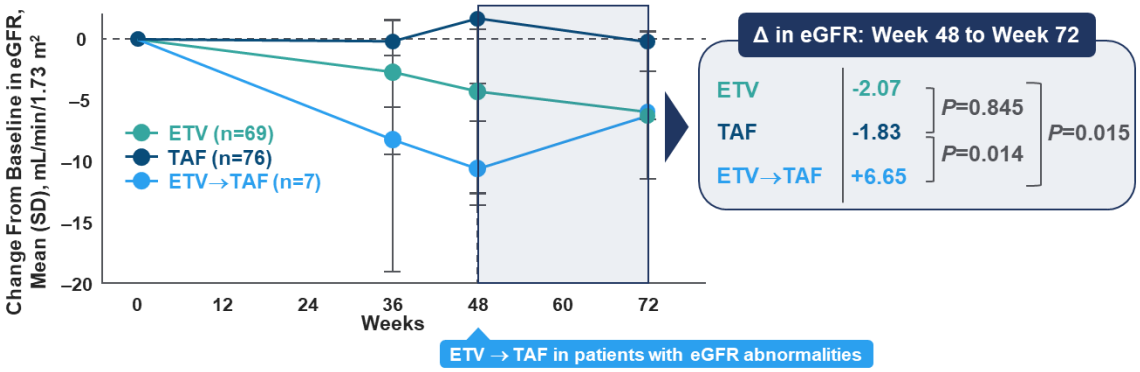
Results

At Week 36, the mean eGFR was significantly greater in the TAF group than in the ETV group: 115.12 vs 109.93 mL/min/1.73 m^2, respectively; *P*=0.007. In multivariate logistic regression analyses, baseline eGFR (OR: 0.871; 95% CI: 0.805–0.942; *P*=0.001]) and treatment with TAF were independently associated with a lower risk of renal abnormality

(OR: 0.221; 95% CI: 0.052–0.947; *P*=0.042). Older age was associated with a higher risk of renal abnormality in a univariate analysis only (OR: 1.072; 95% CI: 1.023–1.123; *P*=0.003).

At Week 48, 7 patients (9.21%) in the ETV group were switched to TAF due to a renal abnormality; in these patients, eGFR values increased from 87.84 mL/min/1.73 m^2 at the time of the treatment switch to 92.02 mL/min/min/1.73 m^2 at Week 72 (Figure 6).

Figure 6. Changes in eGFR Values Through Week 72 by Treatment Received (Liang et al)[9]



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Abbreviations

AE=adverse event
aHR=adjusted hazard ratio
CHB=chronic hepatitis B
CKD=chronic kidney disease
ETV=entecavir
HBcrAg=hepatitis B core-related antigen
HBeAg=hepatitis B envelope antigen
HBsAg=hepatitis B surface antigen
HCC=hepatocellular carcinoma
HR=hazard ratio
IPTW=inverse probability treatment weighting
NUC=nucleos(t)ide analog
OR=odds ratio
Q=quartile
PS=propensity score
TAF=tenofovir alafenamide
TDF=tenofovir disoproxil fumarate
TN=treatment-naïve
ULN=upper limit of normal

Product Label

For the full indication, important safety information, and boxed warning(s), please refer to the Vemlidy US Prescribing Information available at: www.gilead.com/-/media/files/pdfs/medicines/liver-disease/vemlidy/vemlidy_pi.

Follow-Up

For any additional questions, please contact Gilead Medical Information at:

☎1-866-MEDI-GSI (1-866-633-4474) or www.askgileadmedical.com

Adverse Event Reporting

Please report all adverse events to:

Gilead Global Patient Safety ☎ 1-800-445-3235, option 3 or www.gilead.com/utility/contact/report-an-adverse-event

FDA MedWatch Program by ☎ 1-800-FDA-1088 or ✉MedWatch, FDA, 5600 Fishers Ln, Rockville, MD 20852 or www.accessdata.fda.gov/scripts/medwatch

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