Böbrek Yetmezlikli ve Hemodiyaliz Hastalarında KHB Yönetimi

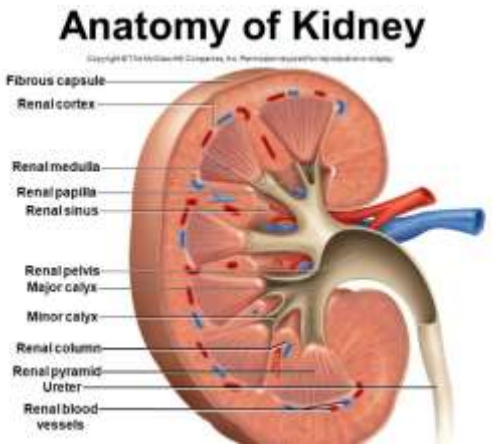
Dr. Zerrin Aşcı Diker
Afyonkarahisar Devlet Hastanesi

Kronik Böbrek Hastalığı

- Böbrek fonksiyonlarının bozulduğu ve glomerüler filtrasyon hızının (GFR) giderek azaldığı bir dizi patofizyolojik sürecin son ortak noktası

- Böbreğin yapısal ya da işlevsel bozukluklarının en az 3 ay süreyle devam etmesi KBH tanı koydurur

- Hafif bir proteinüri→ ileri evre böbrek yetersizliği



Kronik Böbrek Hastalığı

- GFH hesaplaması kan kreatinine dayalı formül

- CrCl (mL/dak) = (140-yaş) x kilo / 72 x serum kreatinin
  (kadınlarda sonuç x 0.85)

Son Dönem Böbrek Yetmezliği

- Böbreklerin görevlerini hiç yapamaması nedeniyle, toksinlerin, sıvının ve elektrolitlerin vücutta birikmesi
- Diyaliz ya da böbrek nakli gibi bir renal replasman tedavisi (RRT) uygulanmadığı durumda hastanın öleceği bir evre
- KBH'nın 5. evresi

TABLO 1—KBH'nın GFR ve Albuminüri' ye göre sınıflandırılması

KBH'nın GFR ve Albuminüri' ye göre sınıflandırılması						
GFR' ye göre Evreler (ml/dk/1.73m²)	1	Normal ya da ↑	>90	Diretken Albuminüri (mg/gün)		
	2 3a	Hafif ↓ Hafif- Orta ↓	60-89 45-59	A1	A2	A3
	3b	Orta-ileri ↓	30-44	Normal ya da ↑	Orta ↑	İleri ↑
	4 5	İleri ↓ SDBY	15-29 <15	<30	30-300	>300

KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease'den adapte edilmiştir.

Kronik Böbrek Hastalığı ve HBV

- Kronik Böbrek Hastalığı dünyada toplumun yaklaşık %10'u
- Ülkemizde %15,3'ünü etkileyen önemli bir halk sağlığı sorunu
- HBV Hemodiyaliz ünitelerinde önemli bir risk olmaya devam etmekte
- Normal populasyona göre oran %2-10 kat fazla

Olgu I

- 73 yaş, erkek
- Emekli memur
- Şikayet: Halsizlik, iştahsızlık

- Özgeçmiş: Esansiyel Primer Hipertansiyon, Tip II Diyabetes Mellitus,
- Hepatit B öyküsü (takipli değil)
- Soygeçmiş: Ailede Diyabet öyküsü

- Fizik muayene: hepatosplenomegali yok, Özellik yok

Olgu I

- Laboratuvar :
- 3.11.2016

- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:4564 IU
- ALT:30, AST:20,
- bilirubinler t/d: 1.1/0.5,
- plt:128.000,
- AFP : 4.09 ng /m
- kreatinin:0.9

Olgu I

- Karaciğer USG: karaciğer parankiminde kabalaşma
- Karaciğer biyopsisi: HAİ grade:9, fibroz: 5

Olgu I

Hastaya Tenofovir Disoproksil Fumarat 245 mg /gün po başlandı.

Olgu I

- 18.1.2017: (1. AY)
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:negatif
- ALT:30, AST:21, GGT:70, ALP:20,
- bilirubinler t/d: 0.6/0.4,
- plt:125.000,
- AFP : 4.09 ng /m
- kreatinin:1.1

Olgu I

- 19.6.2017: (6.AY)
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:negatif
- ALT:19mg/dL, AST:13, GGT:30, ALP:89, Albumin:3.9, fosfor:4.2
- bilirubinler t/d: 0.6/0.4,
- plt:126.000,
- AFP : 4.09 ng /m
- kreatinin:1.1

Olgu I

- 18.6.2018: (18.AY)
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:negatif
- ALT:16mg/dL , AST:15mg/dL, GGT:39, ALP:74, Albumin:4.1,
- bilirubinler t/d: 0.7/0.1
- plt:110.000,
- AFP : 4.09 ng /m
- kreatinin:1.5 BUN:29

Olgu I

18.2.2019 (24. AY):

- HBsAg: pozitif, HBe Ag negatif
- HBV-DNA:negatif
- ALT:11mg/dL , AST:12mg/dL, GGT:18, ALP:87, Albumin:4.4,
- bilirubinler t/d: 0.8/0.2
- plt:110.000,
- AFP :3.2 ng /m
- kreatinin: 1.7, fosfor:3.3
- Spot idrar idrarda protein:308 mg/dL

- GFR DEĞERİ 39

Olgu I

- SUT 'un 4.2.13.1 maddesi (3) a2 fıkrası
- Tedavi TENOFOVİR ALAFENAMİD FUMARAT ile değiştirildi

- TAF Tedavisinin 4. yılı
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:negatif
- ALT:13mg/dL , AST:13mg/dL, GGT:18, ALP:77, Albumin:4.2,
- bilirubinler t/d: 0.5/0.1
- plt:132.000, , fosfor:2.8
- AFP : 3.2 ng /m

- kreatinin:2.5 BUN:35

Review > Diseases. 2018 Jun 19;6(2):52. doi: 10.3390/diseases6020052.

Renal Impairment in Chronic Hepatitis B: A Review

Hiroteru Kamimura [1], Toru Setsu [2], Naruhiro Kimura [3], Takeshi Yokoo [4], Akira Sakamaki [5], Kenya Kamimura [6], Atsunori Tsuchiya [7], Masaaki Takamura [8], Satoshi Yamagiwa [9], Shuji Terai [10]

Affiliations + expand

PMID: 299

Free PMC

HBV enfeksiyonuna bağlı böbrek hastalıkları; membranöz nefropati (MN), membranoproliferatif glomerülonefrit (MPGN), poliarteritis nodosa (PAN) ve mezangial proliferatif glomerülonefrittir

Abstrac

The liver p

because it communicates with the spleen and all digestive organs through the portal vein.

Additionally, the kidney is an orga

Glomerulonephritis is an importa

infection. Nucleos(t)ide analog (NA) therapy effectively suppresses HBV replication by inhibiting HBV polymerase, thus decreasing the levels of serum HBV-DNA and delaying the progression of cirrhosis. Although NA therapy is recommended for all patients with chronic HBV infection, regardless of the level of renal dysfunction, there is limited information on NA use in patients with chronic kidney disease. In addition, in patients with end-stage live

Hence, we should take into account the stage of in

aims of this article are to review the epidemiology,

HBV-associated nephropathy.

Hepatit B Tedavi İlacı ile Böbrek Hasarı

Hepatorenal sendrom; Böbrekte, düşük GFR ile sonuçlanan belirgin böbrek vazokonstriksiyonu hastaneye başvuran hepatit B sirozlu hastaların yaklaşık% 20'sinde

OPEN

Risk Factors for Renal Functional Decline in Chronic Hepatitis B Patients Receiving Oral Antiviral Agents

Jung-ho Shin, MD, Hee Jin Kwon, MD, Hye Ryoun Jang, MD, PhD, Jung Eun Lee, MD, PhD, Geum-Youn Gwak, MD, PhD, Wooseong Huh, MD, PhD, Sin-Ho Jung, PhD, Joon Hyeok Lee, MD, PhD, Yoon-Goo Kim, MD, PhD, Dae Joong Kim, MD, PhD, and Ha Young Oh, MD, PhD

Tedavi ajanlarından biri başlanan hastaların;
Tedavinin ilk üç ayında her ay
İlk yıl üç ayda bir
Sonra her altı ayda bir renal fonksiyonları takip edilmelidir.

Ancak dekompanse siroz, kontrolsüz diyabet, proteinüri, kontrolsüz hipertansiyon, aktif glomerülonefrit varsa veya kreatin klirensi 50-60 ml/dak arasında ise bu hastalarda daha dikkatli olunmalıdır.

- İnterferon-alfa (standart IFN-alfa 2a veya 2b ya da PEG IFN-alfa 2a veya 2b)
- Lamivudin
- Telbivudin
- Adefovir
- Entekavir
- Tenofovir disoproksil
- Tenofovir alafenamid

AASLD

- Entekavir ve tenofovir etkinlik ve yan etki açısından benzer
- Tenofovir tedavisi sırasında renal disfonksiyon, hipofosfatemi, Fanconi sendromu görülebilir
- TDF ye bağlı renal disfonksiyon ve/veya kemik hastalığı düşünülüyorsa TAF ya da ETV
- Doz ayarlaması yapılmalı

Tedavi seçenekleri

CrCl (mL/min)	Lamivudine	Telbivudine	Adefovir	Entecavir*	TDF	TAF	Pegylated Interferon α-2α
≥50	100 mg/day	600 mg/day	10 mg/day	0.5 mg/day	245 mg/day	25 mg/day	180 μg SQ/week
30-49	First dose, 100 mg; then 50 mg/day	600 mg/day 2	10 mg/day 2	0.25 mg/day	245 mg/day 2	25 mg/day	135 μg SQ/week
15-29	First dose, 35 mg; then 25 mg/day	600 mg/day 3	10 mg/day 3	0.15 mg/day	245 mg/day 2-3	25 mg/day	
5-14	First dose, 35 mg; then 15 mg/day	600 mg/day 3	10 mg/day 3†	0.05 mg/day†	245 mg/week†		
<5	First dose, 35 mg; then 10 mg/day	600 mg/day 4	10 mg/week after HD‡	0.5 mg/week after HD‡	245 mg/week after HD‡		

Abbreviations: CrCl, creatinine clearance; HD, hemodialysis; SQ, subcutaneous; TAF, Tenofovir alafenamide fumarate; TDF, Tenofovir disoproxil fumarate.
*Recommended only for nucleos(t)ide analog-naive patients.
†Recommended only for CrCl ≥ 10 mL/min.
‡Only for patients on HD.
Reprinted from Pipili et al,[25] with permission from the International Society of Nephrology.

Adv Chronic Kidney Dis. 2019;26(1):41-50

Randomized Controlled Trial > J Viral Hepat. 2021 Feb;28(2):364-372. doi: 10.1111/jvh.13420. Epub 2020 Nov 2.

Comparison of viral control between two tenofovir dose reduction regimens (300 mg every 48 hours versus 300 mg every 72 hours) in chronic hepatitis B patients with moderate renal impairment from tenofovir-induced renal dysfunction

Watcharasak Chotiyaputta [1], Karn Poosanasuwansri [1], Kraiwiporn Kiattisunthorn [2], Siwaporn Chainuvati [1], Tawesak Tanwandee [1]

Faculty of Medicine Siriraj Hospital, Mahidol University, Bangkok, Thailand.

Virologically suppressed CHB patients treated with TDF who had moderate renal impairment were randomly allocated to receive TDF 300 mg either every 48 or 72 hours. Forty-six patients (67.4% male) with a mean age of 62.8 ± 7.8 years were enrolled. Among all patients, 34.8% were HBeAg-positive, and 23.9% had cirrhosis. All included patients completed 12 months of follow-up. No patients had virological breakthrough. After dose reduction, estimated glomerular filtration rate (eGFR) was improved in both groups, but a higher proportion of patients had an eGFR > 60 mL/min/1.73 m^2 in the TDF every 72 hours group. Other renal parameters, including serum phosphate, tubular maximal reabsorption for phosphate per GFR, urine protein-to-creatinine ratio, urine sugar and urine neutrophil gelatinase-associated lipocalin, were not significantly different between groups. Among TDF-treated CHB patients with TDF-induced moderate renal impairment, more aggressive dose reduction in TDF from every 48 hours to every 72 hours did not affect virological breakthrough. A higher proportion of patients in the TDF every 72 hours group had improvement in renal function.

› Life (Basel). 2021 Mar 23;11(3):263. doi: 10.3390/life11030263.

Tenofovir Alafenamide Rescues Renal Tubules in Patients with Chronic Hepatitis B

Tomoya Sano [1], Takumi Kawaguchi [1], Tatsuya Ide [1], Keisuke Amano [1], Reiichiro Kuwahara [1], Teruko Arinaga-Hino [1], Takuji Torimura [1]

Affiliations + expand

PMID: 33806752 PMCID: PMC8005189 DOI: 10.3390/life11030263

Free PMC article

Table 1. Effects of switching to TAF from other NAs including ADV/TDF on renal function.

Author Reference	Study Design	n	Intervention	Assessment Point after Intervention	Outcome: Renal Function	Outcome: Bone Metabolism	Reference
Lampertico P. et al. Lancet Gatroenterol Hepatol. 2020	Phase III RCT	488	TDF→TAF	48 weeks	Improvement of CCr	Improvement of BMD	[49]
Ogawa E. et al. Liver Int. 2020	Multicenter retrospective cohort study	122	NA combination * →TAF	48 weeks	Improvement of eGFR and U-BMG/Cr	Improvement of serum P	[50]
Fong TL. et al. J Viral Hepat. 2019	Prospective single-arm open-label study	75	TDF→TAF	24 weeks	Improvement of U-BMG/Cr and U-RBP/Cr	Improvement of BMD	[51]
Lee BT. et al. JGH Open. 2020	Prospective single-arm open-label study	61	TDF→TAF	72 weeks	Improvement of U-BMG/Cr and U-RBP/Cr, Exacerbation of CCr	Improvement of BMD	[48]
Kaneko S. et al. J Gasrienterol Hepatol. 2019	Prospective single-arm open-label study	36	TDF→TAF	24 weeks	Improvement of eGFR and U-BMG/Cr	Not applicable	[52]
Sano T. et al. Biomed Rep. 2021	Retrospective observational study	33	ADV/TDF→TAF	24 weeks	Improvement of U-BMG/Cr	Improvement of ALP and BAP	[53]

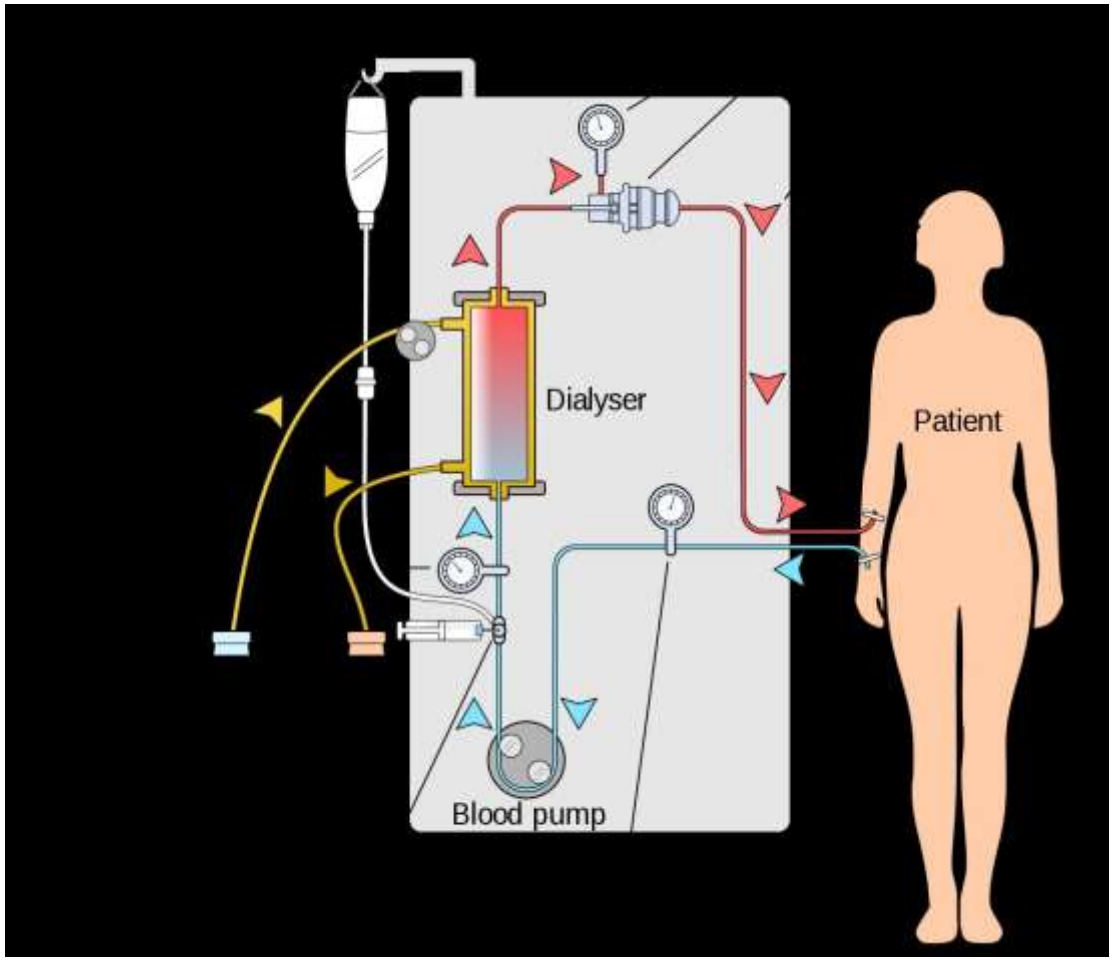
Note. * The NA combination includes LAM/ETV and ADV/TDF treatments. Abbreviations: TAF, tenofovir alafenamide; NA, nucleos(t)ide analog; ADV, adefovir dipivoxil; TDF, tenofovir disoproxil fumarate; RCT, Randomized Controlled Trial; CCr, creatinine clearance; BMD, bone mineral density; eGFR, estimated glomerular filtration rate; U-BMG/Cr, urine β2-microglobulin-creatinine ratio; P, phosphorus; U-RBP/Cr, urine retinol-binding protein-creatinine ratio; ALP, alkaline phosphatase; BAP, bone specific alkaline phosphatase; LAM, lamivudine; ETV, entecavir.

Olgu II

- 43 yaş, erkek
- Halsizlik, yorgunluk
- FMF
- KBY, 21 yıldır hemodiyaliz
- KHB, 10 yıldır biliniyormuş

- Soygeçmiş: özellik yok

- FM: sol kolda A-V fistül


Dialyser
Patient
Blood pump

- 20.06.2018:
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:430 IU/ml
- ALT:33mg/dL , AST:40mg/dL, GGT:60, ALP:77, Albumin:3.2,
- bilirubinler t/d: 0.5/0.1
- plt:122.000,
- AFP : 3.2 ng /m

- kreatinin:6.5 BUN:70

- 2.10.2018:
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:802 IU/ml
- ALT:36mg/dL , AST:42mg/dL, GGT:70, ALP:88, Albumin:3,
- bilirubinler t/d: 0.9/0.3
- plt:102.000,

- kreatinin:6.1 BUN:80

- 23.1.2022:
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:3260 IU/ml
- ALT:33mg/dL , AST:40mg/dL, GGT:60, ALP:107, Albumin:2.6,
- bilirubinler t/d: 1.5/0.6
- plt:126.000,
- AFP : 3.9 ng /m

- kreatinin:5.5 BUN:70

Kronik Hepatit B VE KBY' li hasta yönetimi

Aminotransferazlar
Kolestaz enzimleri
Albumin seviyesi 3-6 ayda bir

PTZ-INR
AFP
Karaciğer ultrasonu 6 ayda bir

Hemodiyaliz (HD) hastalarında 6-8 haftada bir

- KHB tedavi endikasyonları normal popülasyonla aynı

- Hemoraji sık görülen bir komplikasyon olduğu için bu hastalarda transjuguler karaciğer biyopsisi ya da noninvaziv testler (Elastografi-fıbroscan vb.) önerilebilir.

4.2.13.1.4 Karaciğer biyopsisi ile ilgili genel prensipler (Değişik Başlık:RG-10/5/2018-30417 Mükerrer)[110] (Ek:RG-26/11/2016-29900) [70]

(1) Karaciğer biyopsisi ile ilgili kurallar Ishak skorlamasına göre (pediatrik hastalarda Knodell skorlamasına göre) belirlenmiştir.

(2) Biyopsi için kontrendikasyon bulunan hastalarda [PT de 3 sn den fazla uzama veya trombosit sayısı <80.000 /mm3 veya kanama eğilimini artıran hastalıklar veya kronik böbrek yetmezliği/böbrek nakli veya biyopsiye engel olacak konumda bir yer kaplay1.3ıcı lezyonun varlığı veya karaciğer sirozu veya karaciğer nakli veya gebeler veya biyopsiye engel teşkil edecek şekilde ciddi yeti yitimine neden olan psikotik bozukluğu ve zeka geriliği olan hastalarda (biyopsi uyumunun olmadığının psikiyatri uzman hekimlerince düzenlenecek sağlık kurulu raporunda belirtilmesi koşuluyla)] karaciğer biyopsisi koşulu aranmaz. Biyopsi koşulu aranmayan durumlar sağlık raporunda açık olarak belirtilir.

- İnterferon-alfa (standart IFN-alfa 2a veya 2b ya da PEG IFN-alfa 2a veya 2b)
- Lamivudin
- Telbivudin
- Adefovir
- Entekavir
- Tenofovir disoproksil
- Tenofovir alafenamid

Tedavi seçenekleri

CrCl (mL/min)	Lamivudine	Telbivudine	Adefovir	Entecavir*	TDF	TAF	Pegylated Interferon α-2α
≥50	100 mg/day	600 mg/day	10 mg/day	0.5 mg/day	245 mg/day	25 mg/day	180 μg SQ/week
30-49	First dose, 100 mg; then 50 mg/day	600 mg/day 2	10 mg/day 2	0.25 mg/day	245 mg/day 2	25 mg/day	135 μg SQ/week
15-29	First dose, 35 mg; then 25 mg/day	600 mg/day 3	10 mg/day 3	0.15 mg/day	245 mg/day 2-3	25 mg/day	
5-14	First dose, 35 mg; then 15 mg/day	600 mg/day 3	10 mg/day 3†	0.05 mg/day†	245 mg/week†		
<5	First dose, 35 mg; then 10 mg/day	600 mg/day 4	10 mg/week after HD‡	0.5 mg/week after HD‡	245 mg/week after HD‡		

Abbreviations: CrCl, creatinine clearance; HD, hemodialysis; SQ, subcutaneous; TAF, Tenofovir alafenamide fumarate; TDF, Tenofovir disoproxil fumarate.
*Recommended only for nucleos(t)ide analog-naive patients.
†Recommended only for CrCl ≥ 10 mL/min.
‡Only for patients on HD.
Reprinted from Pipili et al,[25] with permission from the International Society of Nephrology.

Adv Chronic Kidney Dis. 2019;26(1):41-50

- Hastaya entecavir 0.5 gr haftada bir po başlandı.

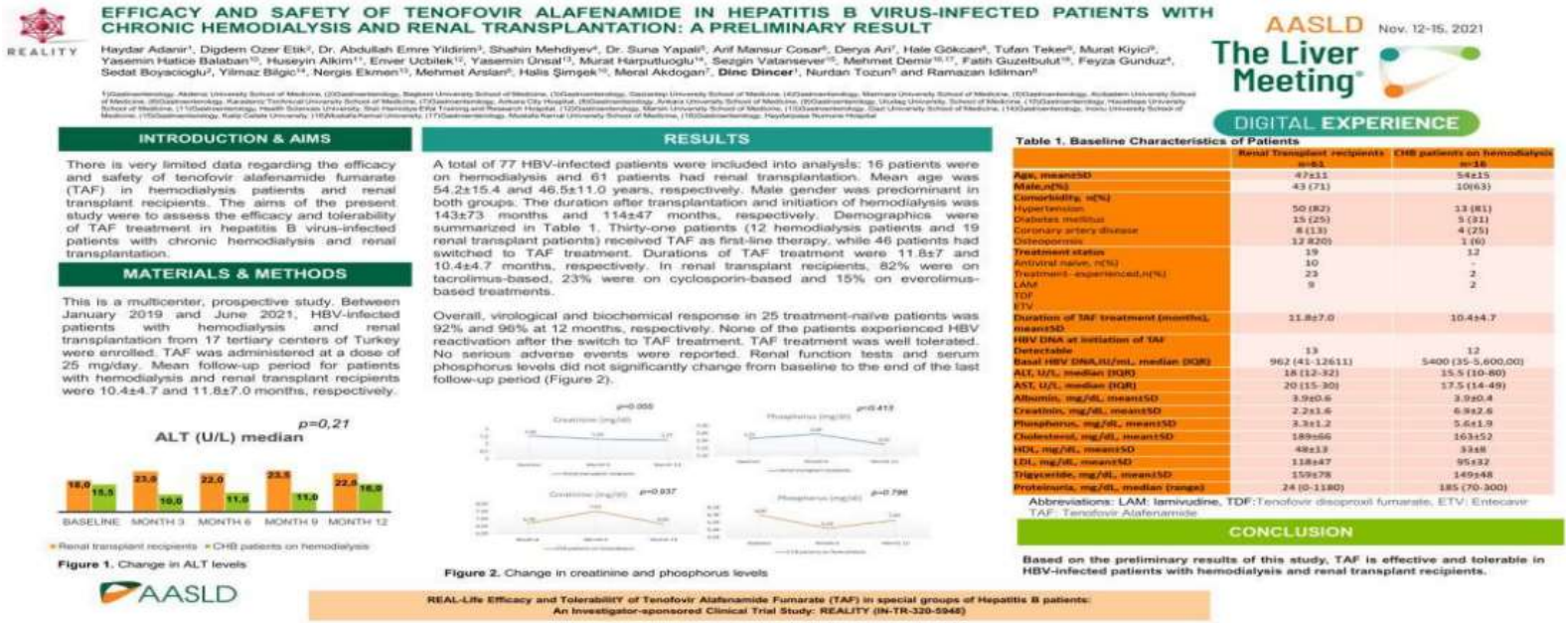
- 2.3.2022:
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:1200 IU/ml
- ALT:36mg/dL , AST:46mg/dL, GGT:90, ALP:130, Albumin:2.8,
- bilirubinler t/d: 1.3/0.6
- plt:116.000,

- kreatinin:6.5 BUN:90

- 22.7.2022:
- HBsAg pozitif, AntiHBS negatif,
- HBeAg Negatif, Anti-HBeAg pozitif
- HBV-DNA:negatif
- ALT:38mg/dL , AST:47mg/dL, GGT:55, ALP:105, Albumin:2.0,
- bilirubinler t/d: 1.5/0.8
- plt:104.000,

- kreatinin:5.9 BUN:97

Kronik Hemodiyaliz ve Böbrek Nakli Olan HBV Enfekte Hastalarda TAF



EFFICACY AND SAFETY OF TENOFOVIR ALAFENAMIDE IN HEPATITIS B VIRUS-INFECTED PATIENTS WITH CHRONIC HEMODIALYSIS AND RENAL TRANSPLANTATION: A PRELIMINARY RESULT

REALITY

AASLD The Liver Meeting® Nov. 12-15, 2021 DIGITAL EXPERIENCE

INTRODUCTION & AIMS

There is very limited data regarding the efficacy and safety of tenofovir alafenamide fumarate (TAF) in hemodialysis patients and renal transplant recipients. The aims of the present study were to assess the efficacy and tolerability of TAF treatment in hepatitis B virus-infected patients with chronic hemodialysis and renal transplantation.

MATERIALS & METHODS

This is a multicenter, prospective study. Between January 2019 and June 2021, HBV-infected patients with hemodialysis and renal transplantation from 17 tertiary centers of Turkey were enrolled. TAF was administered at a dose of 25 mg/day. Mean follow-up period for patients with hemodialysis and renal transplant recipients were 10.4±4.7 and 11.8±7.0 months, respectively.

p=0,21

ALT (U/L) median

BASELINE MONTH 3 MONTH 6 MONTH 9 MONTH 12

Renal transplant recipients CHB patients on hemodialysis

Figure 1. Change in ALT levels

RESULTS

A total of 77 HBV-infected patients were included into analysis: 16 patients were on hemodialysis and 61 patients had renal transplantation. Mean age was 54.2±15.4 and 46.5±11.0 years, respectively. Male gender was predominant in both groups. The duration after transplantation and initiation of hemodialysis was 143±73 months and 114±47 months, respectively. Demographics were summarized in Table 1. Thirty-one patients (12 hemodialysis patients and 19 renal transplant patients) received TAF as first-line therapy, while 46 patients had switched to TAF treatment. Durations of TAF treatment were 11.8±7 and 10.4±4.7 months, respectively. In renal transplant recipients, 82% were on tacrolimus-based, 23% were on cyclosporin-based and 15% on everolimus-based treatments.

Overall, virological and biochemical response in 25 treatment-naïve patients was 92% and 96% at 12 months, respectively. None of the patients experienced HBV reactivation after the switch to TAF treatment. TAF treatment was well tolerated. No serious adverse events were reported. Renal function tests and serum phosphorus levels did not significantly change from baseline to the end of the last follow-up period (Figure 2).

Figure 2. Change in creatinine and phosphorus levels

Table 1. Baseline Characteristics of Patients

	Renal Transplant recipients n=61	CHB patients on hemodialysis n=16
Age, mean±SD	47±11	54±15
Male,n(%)	43 (71)	10(63)
Comorbidity, n(%)		
Hypertension	50 (82)	13 (81)
Diabetes mellitus	15 (25)	5 (31)
Coronary artery disease	8 (13)	4 (25)
Osteoporosis	12 (20)	1 (6)
Treatment status	19	12
Antiviral naive, n(%)	10	-
Treatment- experienced,n(%)	23	2
LAM	9	2
TDF		
ETV		
Duration of TAF treatment (months), mean±SD	11.8±7.0	10.4±4.7
HBV DNA at initiation of TAF		
Detectable	13	12
Basal HBV DNA,IU/mL, median (IQR)	962 (41-12611)	5400 (35-5,600,00)
ALT, U/L, median (IQR)	18 (12-32)	15.5 (10-80)
AST, U/L, median (IQR)	20 (15-30)	17.5 (14-49)
Albumin, mg/dL, mean±SD	3.9±0.6	3.9±0.4
Creatinin, mg/dL, mean±SD	2.2±1.6	6.9±2.6
Phosphorus, mg/dL, mean±SD	3.3±1.2	5.6±1.9
Cholesterol, mg/dL, mean±SD	189±60	163±52
HDL, mg/dL, mean±SD	48±13	33±8
LDL, mg/dL, mean±SD	118±47	95±32
Triglyceride, mg/dL, mean±SD	159±78	149±48
Proteinuria, mg/dL, median (range)	24 (0-1180)	185 (70-300)

Abbreviations: LAM: lamivudine, TDF:Tenofovir disoproxil fumarate, ETV: Entecavir TAF: Tenofovir Alafenamide

CONCLUSION

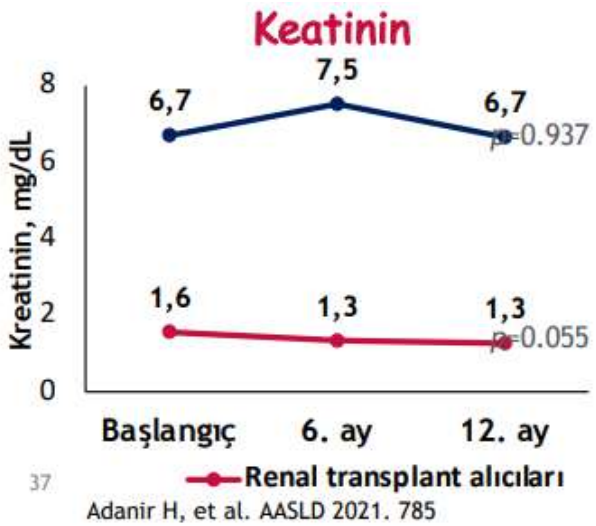
Based on the preliminary results of this study, TAF is effective and tolerable in HBV-infected patients with hemodialysis and renal transplant recipients.

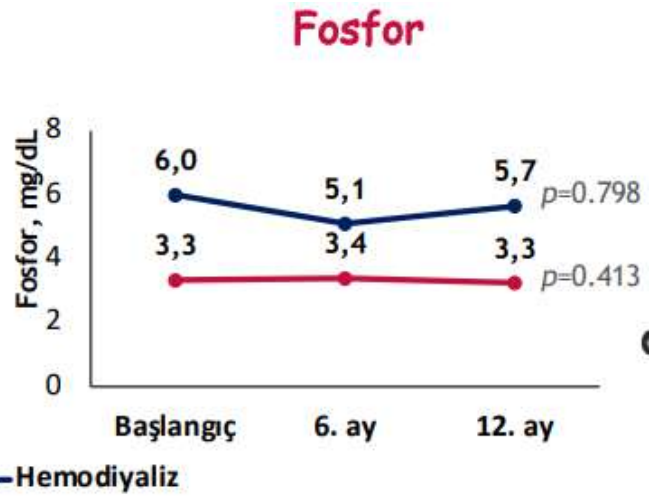
AASLD

REAL-Life Efficacy and Tolerability of Tenofovir Alafenamide Fumarate (TAF) in special groups of Hepatitis B patients: An Investigator-sponsored Clinical Trial Study: REALITY (IN-TR-320-5948)

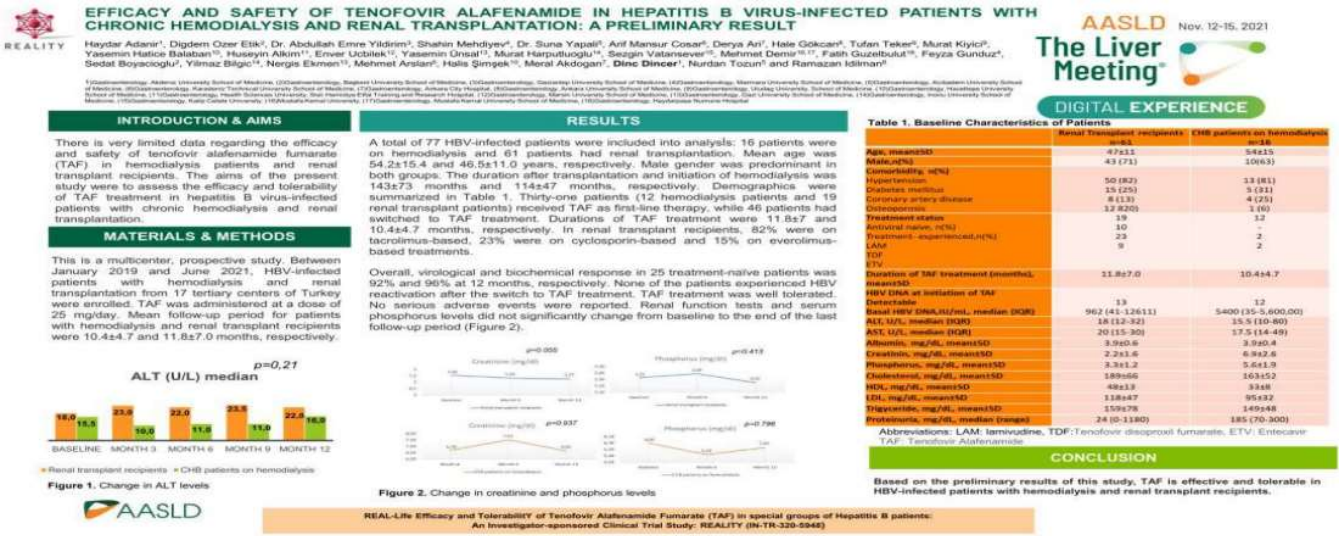
- 1/2019 ve 6/2021 tarihleri arasında TAF almış hemodiyaliz veya böbrek transplantasyonu olan HBV ile enfekte 77 hastanın çok merkezli, retrospektif çalışması

Başlangıç Karakteristikleri	Renal Transplant n=61	Hemodialysis n=16
Yaş, yıl ± SD	47±11	54±15
Erkek, n (%)	43 (71)	10 (63)
İlk olarak TAF kullanan hasta	19 (31)	12 (75)
Tedavisi TAF'a değiştirilen hastalar	42 (69)	4 (25)
TAF süresi, ay ± SD	12±7	10±5
ALT, U/L	18 (12-32)	16 (10-80)
Kreatinin, mg/dL	2.2±1.6	6.9±2.6
Fosfor, mg/dL	3.3±1.2	5.6±1.9





Adanir H, et al. AASLD 2021. 785



EFFICACY AND SAFETY OF TENOFOVIR ALAFENAMIDE IN HEPATITIS B VIRUS-INFECTED PATIENTS WITH CHRONIC HEMODIALYSIS AND RENAL TRANSPLANTATION: A PRELIMINARY RESULT

AASLD The Liver Meeting Nov. 12-15, 2021 DIGITAL EXPERIENCE

INTRODUCTION & AIMS

There is very limited data regarding the efficacy and safety of tenofovir alafenamide fumarate (TAF) in hemodialysis patients and renal transplant recipients. The aims of the present study were to assess the efficacy and tolerability of TAF treatment in hepatitis B virus-infected patients with chronic hemodialysis and renal transplantation.

MATERIALS & METHODS

This is a multicenter, prospective study. Between January 2019 and June 2021, HBV-infected patients with hemodialysis and renal transplantation from 17 tertiary centers of Turkey were enrolled. TAF was administered at a dose of 25 mg/day. Mean follow-up period for patients with hemodialysis and renal transplant recipients were 10.4±4.7 and 11.8±7.0 months, respectively.

p=0,21

ALT (U/L) median

BASELINE MONTH 3 MONTH 6 MONTH 9 MONTH 12

Renal transplant recipients CHB patients on hemodialysis

Figure 1. Change in ALT levels

RESULTS

A total of 77 HBV-infected patients were included into analysis: 16 patients were on hemodialysis and 61 patients had renal transplantation. Mean age was 54.2±15.4 and 46.5±11.0 years, respectively. Male gender was predominant in both groups. The duration after transplantation and initiation of hemodialysis was 143±73 months and 114±47 months, respectively. Demographics were summarized in Table 1. Thirty-one patients (12 hemodialysis patients and 19 renal transplant patients) received TAF as first-line therapy, while 46 patients had switched to TAF treatment. Durations of TAF treatment were 11.8±7 and 10.4±4.7 months, respectively. In renal transplant recipients, 82% were on tacrolimus-based, 23% were on cyclosporin-based and 15% on everolimus-based treatments.

Overall, virological and biochemical response in 25 treatment-naïve patients was 92% and 96% at 12 months, respectively. None of the patients experienced HBV reactivation after the switch to TAF treatment. TAF treatment was well tolerated. No serious adverse events were reported. Renal function tests and serum phosphorus levels did not significantly change from baseline to the end of the last follow-up period (Figure 2).

Figure 2. Change in creatinine and phosphorus levels

Table 1. Baseline Characteristics of Patients

	Renal Transplant recipients n=61	CHB patients on hemodialysis n=16
Age, mean±SD	47±11	54±15
Male,n(%)	43 (71)	10(63)
Comorbidity, n(%)		
Hypertension	50 (82)	13 (81)
Diabetes mellitus	15 (25)	5 (31)
Coronary artery disease	8 (13)	4 (25)
Osteoporosis	12 (20)	1 (6)
Treatment status	19	12
Antiviral naïve, n(%)	10	-
Treatment- experienced,n(%)	23	2
LAM	9	2
TDF		
ETV		
Duration of TAF treatment (months), mean±SD	11.8±7.0	10.4±4.7
HBV DNA at initiation of TAF		
Detectable	13	12
Basal HBV DNA,IU/mL, median (IQR)	962 (41-12611)	5400 (35-5,600,00)
ALT, U/L, median (IQR)	18 (12-32)	15.5 (10-80)
AST, U/L, median (IQR)	20 (15-30)	17.5 (14-49)
Albumin, mg/dL, mean±SD	3.9±0.6	3.9±0.4
Creatinin, mg/dL, mean±SD	2.2±1.6	6.9±2.6
Phosphorus, mg/dL, mean±SD	3.3±1.2	5.6±1.9
Cholesterol, mg/dL, mean±SD	189±66	163±52
HDL, mg/dL, mean±SD	48±13	33±8
LDL, mg/dL, mean±SD	118±47	95±32
Triglyceride, mg/dL, mean±SD	159±78	149±48
Proteinuria, mg/dL, median (range)	24 (0-1180)	185 (70-300)

Abbreviations: LAM: lamivudine, TDF:Tenofovir disoproxil fumarate, ETV: Entecavir TAF: Tenofovir Alafenamide

CONCLUSION

Based on the preliminary results of this study, TAF is effective and tolerable in HBV-infected patients with hemodialysis and renal transplant recipients.

REAL-Life Efficacy and TolerabilitY of Tenofovir Alafenamide Fumarate (TAF) in special groups of Hepatitis B patients: An Investigator-sponsored Clinical Trial Study: REALITY (IN-TR-320-5948)

- TAF, böbrek fonksiyon parametrelerinde değişiklik olmaksızın HBV ile enfekte hemodiyaliz veya böbrek nakli hastalarında etkili
- TAF tedavisi iyi tolere edildi. Hiçbir ciddi advers olay bildirilmedi.
- HBV DNA sı pozitif olan tüm hastalarda ortalama takip süresi sonunda HBV DNA negatifleşti
- Hem renal transplant hem hemodiyaliz hastalarında TAF etkili ve biyokimyasal ve renal parametrelerde güvenli bulunmuştur.

EASL 2017

- Tüm diyaliz hastalarında HBV taraması yapılmalı,
- Tedavi gerektiren HbsAg pozitif diyaliz hastaları ETV veya TAF kullanmalı
- Doz ayarlaması yapılmalı
- ETV naiv hastalarda, TAF hem naiv hem de tedavi deneyimli hastalarda
- HBsAg negatif Anti HBc IgG pozitif ise profilaksi gerekmez, takip edilmeli
- HT , DM gibi hastalıklar kontrol altına alınmalı

EASL

- Tüm HBsAg (+) renal transplant alıcıları profilaksisi ya
- da tedavi almalı
- Naiv hastalarda ETV tercih edilir
- TDF kullanmaktan kaçınılmalı
- TAF hem naiv hem de tedavi deneyimli hastalarda kullanılabilir
- Bütün ilaçlarda doz ayarlaması yapılmalı
- HBsAg negatif Anti HBc IgG pozitif ise profilaksi gerekmez, takip edilmeli
- PegIFNa rejeksiyon riski nedeniyle kontrendike
- HT , DM gibi hastalıklar kontrol altına alınmalı

Teşekkür ederim…