Hepatitis B (HBV) Medications

Paulina Deming, PharmD, PhC
Associate Professor, College of Pharmacy
Associate Director, Project ECHO
pdeming@salud.unm.edu

UNM HEALTH SCIENCES

Project ECHO

Learning Objectives

- Recognize the current recommended medications for HBV treatment
- Differentiate between the recommended therapies for HBV

HBV Treatment

- Decision to treat based on HBV DNA level and degree of liver inflammation
- Treat all patients with cirrhosis
- Treat pregnant women in 3rd trimester at risk of transmission (high viral load)

- HBV is **not curable** (with current medications) but is controllable with improved patient outcomes

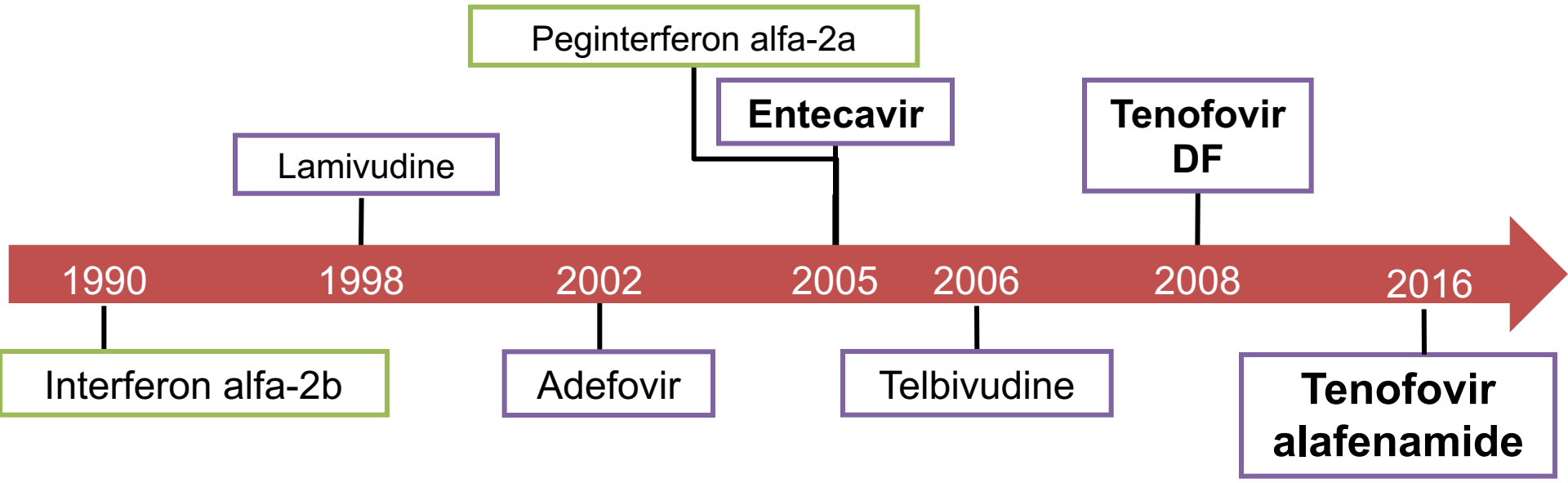
Management of the HBsAg (+) Patient

Cirrhosis	HBV DNA (IU/mL)	ALT (U/L)	Management
YES	Any	Any	> TREAT with antiviral medication (page 6) > Monitor HBV DNA and ALT every 6 months > Refer to specialist for screening endoscopy and, if needed, for other cirrhosis-related complications > HCC surveillance, including in persons who become HBsAg(-) (page 7) > All patients with decompensated cirrhosis[2] should be promptly referred to a hepatologist
NO	>2,000	Elevated[3]	> TREAT with antiviral medication (page 6) > Monitor HBV DNA and ALT every 6 months > Monitor HBeAg and anti-HBe every 6 months in patients who are HBeAg+ at time of treatment initiation to evaluate for seroconversion from HBeAg(+)/anti-HBe(-) to HBeAg(-)/anti-HBe(+) > Check HBsAg annually if/when HBeAg negative
		Normal	> Monitor HBV DNA and ALT every 6 months > Liver fibrosis assessment every 2 to 3 years
	≤2,000	Elevated[3]	> Evaluate other etiologies for elevated ALT > Monitor HBV DNA and ALT every 6 months
		Normal	> Monitor HBV DNA and ALT every 6 months and HBsAg every 1 year for seroclearance

Elevated ALT defined as >25 U/L in females and >35 U/L in males that is persistent for at least 3 to 6 months.

HBV Medications

HBV Treatment Landscape



HBV Therapies

- Preferred Therapies

- Entecavir
- Tenofovir DF
- Tenofovir AF

Do Not Use:

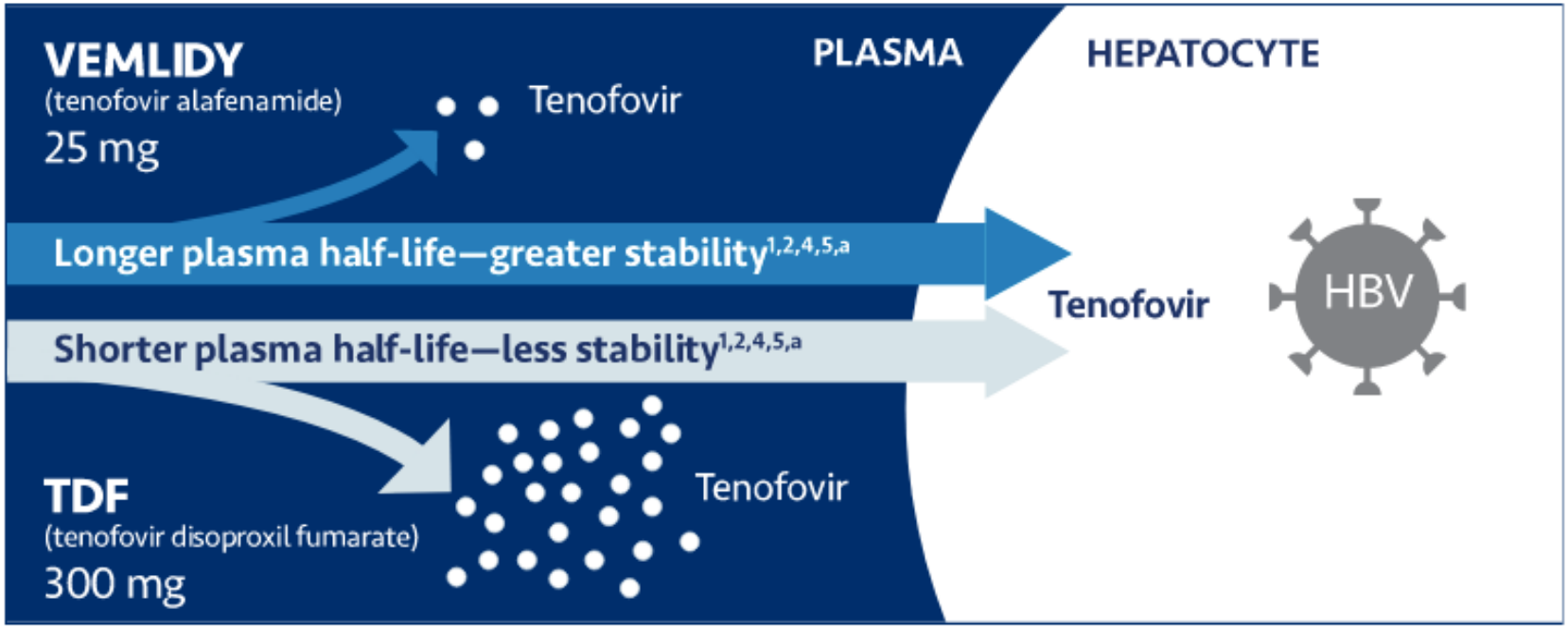
- Lamivudine
- Telbivudine
- Adefovir

All have low barrier to resistance
Not recommended by guidelines for >5 years

HBV Medications

- Entecavir
  - Risk of renal injury
  - Dosing
    - 0.5 mg PO QD
    - 1 mg PO QD if previously treated with lamivudine
- Tenofovir
  - Associated with osteomalacia, patients at risk for osteopenia should be monitored for bone mineral density; risk of renal injury
  - Dosing
    - Tenofovir DF 300 mg PO QD
    - Tenofovir AF 25 mg PO QD
      - Associated with less risk of side effects

Prodrug tenofovir formulations needed for absorption and transfer across cell membrane



Both tenofovir disoproxil fumarate and tenfovir alafenamide are prodrug formulations

HBV Pediatric Medication Dosing

	Tenofovir disoproxil fumarate (TDF) oral tablet dose
≥2 yo and >17 kg	150 mg
≥22-28 kg	200 mg
≥28-35 kg	250 mg
≥35 kg	300 mg

For children ≥2 yo and ≥10 kg; TDF oral powder available as 8 mg/kg (max of 300 mg) once daily

For children <30 kg, entecavir 0.15 mg once daily (liquid)
For children ≥30 kg, entecavir 0.5 mg once daily
For children with prior lamivudine treatment exposure, dose should be doubled

Tenofovir alafenamide: 25 mg PO ADULT DOSING ONLY

Key Points

- All patients with cirrhosis should receive HBV therapy
- HBV preferred therapies include entecavir, tenofovir DF, and tenofovir AF
- Tenofovir AF associated with less renal and bone toxicity compared to tenofovir DF

Resources

- https://www.cdc.gov/hepatitis/
- https://www.cdc.gov/hepatitis/resources/professionals/training/serology/training.htm
- https://www.hepatitisb.uw.edu/

- Hepatitis B Management: Guidance for the Primary Care Provider - HBV Primary Care Workgroup - Hepatitis B Online (uw.edu)