Hepatitis B Virus (HBV) Screening and Management

This practice algorithm has been specifically developed for MD Anderson using a multidisciplinary approach and taking into consideration circumstances particular to MD Anderson, including the following: MD Anderson’s specific patient population; MD Anderson’s services and structure; and MD Anderson’s clinical information. Moreover, this algorithm is not intended to replace the independent medical or professional judgment of physicians or other health care providers. This algorithm should not be used to treat pregnant women.

**PRESENTATION**

This algorithm is based on a review of the existing literature, incorporation of clinical experience, and expert opinion by the committee.

**TEST RESULTS**

- **HBsAg+/- anti-HBc+/** (chronic infection)
- **HBsAg/- anti-HBc+** (past infection)
- **HBsAg/- anti-HBc-**

**ANTICANCER THERAPY**

- Systemic anticancer therapy (cytotoxic, immunotherapy, or targeted therapy)
- Hormonal anticancer therapy alone

**RECOMMENDED ANTIVIRAL TREATMENT**

- Start antiviral prophylaxis and continue for at least 12 months after the last anticancer therapy
- No antiviral prophylaxis unless antiviral treatment is needed independent of anticancer therapy

**MONITORING**

- Check HBV DNA and ALT at baseline and every 6 months during antiviral therapy
- After anticancer therapy, monitor ALT for hepatitis flares after stopping antiviral therapy
- Consult HBV specialist for consideration of long-term antiviral therapy

**TEST RESULTS**

- Review any outside records/past labs if patient is transferring care or started systemic anti-cancer treatment elsewhere
- Independent of hepatitis B surface antibody status
- If immunosuppressive treatment is chosen in the future, then risks of HBV reactivation should be discussed with patient/caregiver

**IVIG** = intravenous immune globulin
HBsAg = hepatitis B surface antigen
anti-HBc = hepatitis B core antibody (total Ig or IgG, not IgM)
anti-HBs = hepatitis B surface antibody

1. See Appendix A for Antiviral Therapy for anti-HBV
2. Hepatitis flare: ALT >100 U/L and 3 times the baseline
3. HBV specialists are with the following consulting services: Hepatology, General Internal Medicine, or Infectious Diseases

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**TEST RESULTS**

- HBsAg-/anti-HBc+1 (past infection)
- All other systemic anticancer therapy (cytotoxic, immunotherapy, or targeted therapy)
- Hormonal anticancer therapy alone

**ANTICANCER THERAPY**

- Anti-CD20 therapy, stem cell trans-plantation (SCT), or CAR T-cell therapy
- CAR T-cell therapy = chimeric antigen receptor T-cell therapy

**RECOMMENDED ANTIVIRAL TREATMENT**

- Start antiviral prophylaxis3 and continue for at least 12 months after the last anticancer therapy4
- No antiviral prophylaxis needed; monitor
- No antiviral prophylaxis unless antiviral treatment is needed independent of anticancer therapy

**MONITORING**

- Check HBsAg and ALT every 3 months during anticancer therapy
- If HBsAg+, then start antiviral therapy3 immediately
- If hepatitis flare4, check HBV DNA and contact HBV specialists5 if detectable

1 Independent of hepatitis B surface antibody status
2 Refer to MDA internal SCT guidelines for Hepatitis A, B, C, and E: Prevention and Treatment in SCTCT
3 See Appendix A for Antiviral Therapy for anti-HBV
4 Alternate option if patient and provider are able to adhere to frequent and consistent follow-up during and for up to 12 months after last anticancer therapy; monitor HBsAg and HBV DNA every 3 months with immediate antiviral therapy at the earliest sign of HBV reactivation
5 Hepatitis flare: ALT >100 U/L and 3 times the baseline
6 HBV specialists are with the following consulting services: Hepatology, General Internal Medicine, or Infectious Diseases
Recommended anti-HBV medications (to be used as monotherapy):

- Entecavir
- Tenofovir alafenamide
- Tenofovir disoproxil fumarate

While there are several anti-HBV medications, entecavir, tenofovir alafenamide, and tenofovir disoproxil fumarate are recommended due to low risk of viral resistance as well as strong efficacy data on patients receiving anticancer therapy at risk for HBV reactivation. Co-management of HBV patients by oncology teams and HBV experts is recommended.

1 HIV testing is recommended prior to the initiation of anti-HBV therapy, as per standard of care and to avoid monotherapy for HIV infection, if present.
SUGGESTED READINGS


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DEVELOPMENT CREDITS

This practice consensus algorithm is based on majority expert opinion of Hepatitis B Virus experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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