BC Cancer Protocol Summary for Hepatitis B Virus Reactivation Prophylaxis

Protocol Code	*SCHBV*
Tumour Group	*Supportive Care*
Contact Physician	*Dr. Kerry Savage (Lymphoma)* *Dr. Alina Gerrie (Lymphoma)* *Dr. Kevin Song (Leukemia)* *Dr. Alissa Wright (Infectious Disease)*

ELIGIBILITY:

Patients undergoing systemic therapy for lymphoid, plasma cell, and myeloid malignancies

Note

Exceptional coverage for antiviral prophylaxis may be considered from the BC PharmaCare Special Authority program. Patient specific factors, including specific treatment regimen for the underlying malignancy and the most recent hepatitis serology report (as detailed below), are required with each Special Authority request.

TESTS:

- **Baseline***:
  - HBsAg, HBsAb, HBcoreAb.
  - Patients with HBsAg positive and/or HBcoreAb positive also require a baseline HBV DNA.
  - Results do not have to be available to proceed with first treatment, but results must be checked before proceeding with cycle 2 of cancer treatment.
    ** Baseline serology (particularly HBsAb) should be repeated if patient relapses, and/or needs additional lines of antineoplastic systemic therapy and the patient is not on prophylaxis*
- **Every 3 months:**
  - Patients with HBsAg positive and HBcoreAb positive or negative: HBV DNA, and ALT, during cancer treatment and at least 12 months after stopping antiviral for HBV prophylaxis
  - Patients with HBsAg negative and HBcoreAb positive: HBsAg, HBV DNA and ALT, during cancer treatment and for at least 12 months after stopping antiviral for HBV prophylaxis

ANTIVIRAL PROPHYLAXIS:

- Prophylaxis should be initiated before immunosuppressive or cytotoxic therapy
- Consider referral to a hepatology specialist to co-manage, particularly in cases with HBsAg reactivity, underlying liver fibrosis/cirrhosis and/or when monitoring may be challenging.

Drug	Dose	BC Cancer Administration Guideline
entecavir or tenofovir	0.5 mg daily* 300 mg daily*	PO PO

*See Appendix for indication and duration of HBV prophylaxis

Call Drs. Kerry Savage or Alina Gerrie at (604) 877-6000 or 1-800-663-3333 or Drs. Kevin Song and Alissa Wright at (604) 875-4863 or (604-875-5000) with any problems or questions regarding this treatment program.

References

1. Coffin CS, Fung SK, Alvarez F, et al. Management of hepatitis B virus infection: 2018 guidelines from the Canadian Association for the Study of the Liver (CASL) and Association of Medical Microbiology and Infectious Disease Canada (AMMI). Can Liver J 2018;1:156-217.
2. European Association for the Study of the Liver. EASL 2017 Clinical Practice Guidelines on the management of hepatitis B virus infection. J Hepatol 2017;67(2):370-98.
3. Lau G, Yu ML, Wong G, et al. APASL clinical practice guideline on hepatitis B reactivation related to the use of immunosuppressive therapy. Hepatol Int 2021;15:1031-48.
4. Hwang JP, Feld JJ, Hammond SP, et al. Hepatitis B virus screening and management for patients with cancer prior to therapy: ASCO Provisional Clinical Opinion Update. J Clin Oncol 2020;38:(31):3698-715.

Appendix: Risk of hepatitis B reactivation with immunosuppressive therapy

Risk of HBV reactivation*	Cancer Treatment*	Serology	Antiviral for HBV prophylaxis	Prophylaxis duration *after end of cancer treatment*	Monitoring including *after prophylaxis discontinued*
Very high	B-cell depleting therapy (e.g., riTUXimab, obinutuzumab, polatuzumab, BTK inhibitors, CAR T-cell therapy, plasma cell antibodies (eg. CD38 daratumumab, isatuximab), bi-specific anti-B-cell/plasma cell antibodies, alemtuzumab)	HBsAg+ **OR** HBcAb+	entecavir†	18 months	Monitor HBV DNA, and ALT + HBsAg (if negative at baseline) q3months and for at least 12 months after stopping antivirals
High	Autologous or allogeneic stem cell transplant	HBsAg+ **OR** HBcAb+	entecavir†	12 months after completion of all immunosuppressive therapy	
	High-dose corticosteroids‡, anthracyclines	HBsAg+	entecavir†	6 months§	
Moderate 1%-10%	Tyrosine kinase inhibitors	HBsAg+	entecavir†	6 months§	
	Moderate-dose corticosteroids‡	HBsAg+	entecavir†	6 months§	
	Other highly or moderately immunosuppressive LY/MY/LK protocols*	HBsAg+	entecavir†	6 months§	
	Tyrosine kinase inhibitors High or Moderate -dose corticosteroids‡ Anthracyclines Other highly or moderately immunosuppressive LY/MY/LK protocols*	HBsAg- and HBcAb+	If anti-HBs titres >100 U/L: No prophylaxis		
			If anti-HBs titres ≤100 U/L: entecavir†	6 months§	
Low < 1%	Other low immunosuppressive LY/MY/LK protocols*	HBsAg+ **OR** HBsAg- and HBcAb+	No prophylaxis		

*	LY/MY/LK are lymphoid, plasma cell, or myeloid malignancy treatment protocols. They are designated as low, moderately, or highly immunosuppressive within the protocols. Refer to specific protocol for designation.
†	Entecavir is preferred but tenofovir is an acceptable alternative. Tenofovir may cause renal toxicity. Both agents require dose adjustment in patients with pre-existing renal dysfunction. Patients currently on lamivudine do not need to switch therapy; however consider a switch to entecavir or tenofovir at the next Special Authority Renewal.
‡	High-dose = predniSONE equivalent ≥ 20 mg/d for ≥ 4 weeks[3] Moderate-dose = predniSONE equivalent 10 - 20 mg/d for ≥ 4 weeks[3]
§	Longer duration would require exceptional coverage review and description of patient specific factors requiring extended prophylaxis, including specific treatment regimen for the underlying malignancy and the most recent hepatitis serology report.