BC CANCER
Provincial Health Services Authority

CAR T-Cell First Year Follow-Up Recommendations for Primary Hematologists/Oncologists
(Lymphoma Patients)

1 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Ferritin, CRP • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***)
3 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (see notes 1 and 2) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology**: • PET/CT for response assessment • Bone marrow aspirate/biopsy if prior involvement with lymphoma
Interventions: • Dental Assessment (between 1-3 months post infusion)
Immunizations: • See BCCDC Immunization Worksheet • COVID19, PCV20 and influenza vaccines may commence as early as 3 months (***see note 3****)*
6 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology:** • PET/CT for response assessment, *only if not in CR at 3-month scans*
Immunizations: • See BCCDC Immunization Worksheet • Provide lab requisition for Hepatitis B sAb titre for patient to do 1 month after receiving third Hepatitis B vaccine dose (Public Health Unit will inform patient when to do testing).
9 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***)
Immunizations: • See BCCDC Immunization Worksheet

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12 Month CAR T-Cell Follow-Up
Investigations: • CBCD, electrolytes, Cr, LFTs, INR, aPTT • Quantitative IgG, IgA, IgM (***see notes 1 and 2***) • TSH, T3, T4 • FSH/LH for females, Testosterone for males • Hepatitis B DNA + HBsAg, *if core antibody (total) or HBsAg positive* (***see note 4***) **Imaging and Pathology:** • CT for response assessment, *if in CR at 3 or 6 month PET/CT*, **or** PET/CT for response assessment, *if in PR at 3 or 6 month PET/CT*. • Age-appropriate malignancy screening
Interventions: • Dental Assessment
Immunizations: • See BCCDC Immunization Worksheet
Long Term Follow-Up
Lifelong follow-up is strongly recommended for patients treated with CAR T-cell therapy to monitor for late toxicities and secondary cancers. Annual follow-up with their primary oncologist is strongly recommended.

NOTES

1. Prophylactic IVIg can be considered in patients with IgG levels <5.0g/L AND one of:
   a) One life threatening bacterial infection in the past 12 months,
   b) Two serious bacterial infections in the past 6 months

   IVIg should be administered at an initial dose of 0.4g/kg adjusted body weight given IV monthly to target a trough IgG level of 7-10 g/L. The lowest possible maintenance dose to achieve this trough should be utilized. IVIg use MUST be assessed every 6 months.

   See Provincial Blood Coordinating Office (PBCO) for further guidance on IVIG and SCIG for secondary immunodeficiency (https://www.pbco.ca/index.php/programs/immunodeficiency/secondary-immunodeficiency).

2. Testing for *IgG subclasses* is not necessary.

3. Most vaccinations can start at 6 months with the following exceptions:
   a) Primary COVID19 vaccine series (3 doses) may commence as early as 3 months after CART therapy.
   b) PCV20 series may commence as early as 3 months after CART therapy.
   c) Influenza vaccine may commence as early as 3 months after CART therapy ***during influenza season*** (usually November to April). If influenza vaccine is given < 6 months post-transplant, a

2nd dose should be offered 28 days later. Live attenuated influenza vaccine is contraindicated for CAR T-cell therapy recipients.

4. Patients on IVIg should not receive live vaccines until 8 months after the final dose of IVIg.

5. Patients treated with CAR-T cell therapy are at increased risk of infection both from the procedure itself, B-cell aplasia, underlying disease and multiple prior lines of therapy.

	When	Medication	Duration
HSV or VZV	Seropositive patients	Valacyclovir 500mg PO BID Acyclovir 800mg PO BID	Min 1 year post infusion* Ω
PJP	All patients	Septra DS 1 tab PO BID M & Th Alternatives: • Pentamidine 300mg IV q21-28d • Dapsone¥ 100mg PO daily • Atovaquonet 1500mg PO daily	1 year post infusion*
HBV	HBcAb or HBsAg positive patients	Entecavir 0.5mg PO daily, or Tenofovir disoproxil fumarate 300mg PO daily	18 months post CAR T-cell infusion

LD = lymphodepletion.
Note: Lymphocyte subset monitoring is no longer recommended in routine follow-up.
* The decision to continue prophylaxis for HSV/VZV and PJP should take into account the patient's history (e.g. history of PJP, Post AlloSCT) and current risk factors (e.g. ongoing chemotherapy or high dose steroids).
Ω Providers should have a risk benefit discussion of valacyclovir discontinuation at 1 year as the medication is well tolerated and highly effective for HSV/VZV prevention. Patients post CART are eligible for the recombinant zoster vaccine [RZV (Shingrix ™)] at 10 months post CART. However, this is not publicly funded. The added benefit of the live varicella vaccine to those who have received the RZV is likely negligible but unlikely to be harmful. Varicella vaccine can be administered ≥24 months post-CART.
t Optimal alternative in Toxoplasmosis IgG positive patients. *Covered by Pharmacare if patient has contraindication to Septra and is toxoplasmosis IgG positive; Special Authority required*. Ideally taken with high fat meal to optimize absorption.
¥ Contraindicated in patients with G6PD deficiency (G6PD screen should be performed prior to initiation). Use with caution in patients with sulfa allergy.

6. Cytopenias: Cytopenias are common post CART and can be biphasic with initial count recovery followed by a decrease months after CART administration. Neutropenia and thrombocytopenia are most common. Patients with new onset cytopenias should be worked up for alternative causes (infection, medication effect, relapse, secondary hematologic deficiency, etc). If no other cause is found, GCSF can be given for neutropenia at the lowest frequency to maintain an ANC >0.5. Patients with persistent, transfusion dependent thrombocytopenia may derive benefit from eltrombopag which can be discussed with a CART physician.

7. Pharmacovigilance: Unexpected and serious adverse effects should be reported to both Health Canada and the drug manufacturer. Specifically, this includes any T-cell malignancies occurring post CAR T-cell therapy. If you are unsure if an event qualifies, please contact the CART physician.

If referring providers need additional advice, please contact the patient's VGH LBMT Program or Out-of-Province CART treating physician. Alternatively, they may contact Dr. Hannah Cherniawsky or Dr. Kevin Song at (604) 875-4863.