

BCCA Protocol Summary for Pre-Emptive Rituximab Therapy of Epstein-Barr Virus (EBV) Related Post-Transplant Lymphoproliferative Disease

Protocol Code: BMTLPDRIT

Tumour Group: Leukemia/BMT

Contact Physicians: Dr. John Shepherd
Dr. Raewyn Broady

ELIGIBILITY:

- Patients after allogeneic SCT who are at high risk of EBV reactivation due to prior GVHD prophylaxis/treatment with anti-thymocyte globulin (ATG)
- All patients undergoing umbilical cord blood transplant
- Must have documented EBV reactivation by PCR testing

TESTS:

- Baseline: CBC & diff, platelets, creatinine, bilirubin, AST, alkaline phosphatase, LDH

PREMEDICATIONS:

- Diphenhydramine 50 mg PO prior to Rituximab and then q 4 h during the IV infusion, if the infusion exceeds 4 h
- Acetaminophen 650-**1000** mg PO prior to Rituximab and then q 4 h during the IV infusion, if the infusion exceeds 4 h

TREATMENT:

Drug	Dose	BCCA Administration Guideline
Rituximab	375 mg/m ²	IV in 250-500 mL NS over 90 minutes-8 hours* (doses between 500-1000 mg can be prepared in either 250 mL or 500 mL NS)

- Repeat weekly for up to 2 doses.

*Start the Rituximab initial infusion at 50 mg/h and, after 60 minutes, increase by 50 mg/h every 30 minutes until a rate of 400 mg/h is reached. For all subsequent treatments, infuse 50 mL of 250 mL bag (or 100 mL of 500 mL bag) of the dose over 30 minutes then infuse the remaining 200 mL of 250 mL bag (or 400 mL of 500 mL bag) (4/5) over 60 minutes (total infusion time = 90 minutes). Development of an allergic reaction may require a slower infusion rate. See hypersensitivity below

DOSE MODIFICATIONS:

None.

PRECAUTIONS:

1. **Hypersensitivity:** Refer to BCCA Hypersensitivity Guidelines. Rituximab can cause allergic type reactions during the IV infusion such as hypotension, wheezing, rash, flushing, alarm, pruritus, sneezing, cough, fever or faintness. For first dose, patients are to be under constant visual observation during all dose increases and for 30 minutes after infusion is completed. For all subsequent doses, constant visual observation is not required. Vital signs are not required unless symptomatic. Because transient hypotension may occur during infusion, consider withholding antihypertensive medications 12 hours prior to Rituximab infusion. If an allergic reaction occurs, stop the infusion and the physician in charge should determine a safe time and rate to resume the infusion. A reasonable guideline is as follows. After recovery of symptoms, restart Rituximab infusion at one infusion rate below the rate at which the reaction occurred and continue with escalation of infusion rates on the appropriate schedule above. If the infusion must be stopped a second time, restart after clearance of symptoms, at one infusion rate lower and continue at that rate without further escalation. Fatal cytokine release syndrome can occur (see below).
2. **Fatal Cytokine Release Syndrome** has been reported. It usually occurs within 1-2 hours of initiating the first Rituximab infusion. Initially, it is characterised by severe dyspnea (often with bronchospasm and hypoxia) in addition to fever, chills, rigors, urticaria and angioedema. Pulmonary interstitial infiltrates or edema visible on chest x-ray may accompany acute respiratory failure. There may be features of tumour lysis syndrome such as hyperuricemia, hypocalcemia, acute renal failure and elevated LDH. For severe reactions, stop the infusion immediately and evaluate for tumour lysis syndrome and pulmonary infiltration. Aggressive symptomatic treatment is required. The infusion can be resumed at no more than one-half the previous rate once all symptoms have resolved, and laboratory values and chest x-ray findings have normalized.

Call Dr. John Shpherd or a member of the Leukemia/BMT tumour group at (604) 875-4863 with any problems or questions regarding this treatment program.

Date activated: 1 Feb 2011

Date revised:

REFERENCES:

1. Styczynski J, Reusser P, Einsele H, et al. Management of HSV, VZV and EBV infections in patients with hematological malignancies and after SCT: guidelines from the Second European Conference on Infections in Leukemia. Bone Marrow Transplant. 2009;43(10):757-70.
2. Coppoletta S, Tedone E, Galano B, et al. Rituximab treatment for Epstein-Barr virus DNAemia after alternative-donor hematopoietic stem cell transplantation. Biol Blood Marrow Transplant 2010 Oct 13. [Epub ahead of print].