BCCA Protocol Summary for Peginterferon Alfa-2a Therapy of Chronic Myeloid Neoplasms and Hypereosinophilic Syndrome

Protocol Code	*LKPEGIFN*
Tumour Group	*Leukemia/BMT*
Contact Physician	*Dr. Donna Forrest* *Dr. Luke Chen*

ELIGIBILITY:

- Chronic myeloid neoplasms intolerant to hydroxyUREA, including:
  - Myeloproliferative neoplasms, e.g.
    - Polycythemia vera
    - Primary or secondary myelofibrosis (post-essential thrombocythemia or post-polycythemia vera)
    - Essential thrombocythemia
    - Systemic mastocytosis
- Eosinophilic disorders including idiopathic hypereosinophilic syndrome, chronic eosinophilic leukemia NOS, and lymphocyte-variant hypereosinophilia refractory to steroids or hydroxyUREA
- May be used in combination with other medications for myeloproliferative neoplasms

EXCLUSIONS:

- Reactive (i.e., secondary) eosinophilia
- Myeloid and lymphoid neoplasms with eosinophilia and abnormalities of PDGFRA, PDGFRB, or FGFR1
- Uncontrolled major neuropsychiatric condition

TESTS:

- **Baseline:**
  - CBC and differential, platelets, ALT, alkaline phosphatase, total bilirubin, LDH, TSH, serum creatinine.
  - Screening for depression (e.g., using Beck Depression Scale) is recommended, especially in patients with high risk of mood disorders.

- **During treatment:**
  - CBC and differential, platelets
    - First 3 months: monthy
    - After 3 months: every 3 months
  - ALT, Alkaline Phosphatase, total bilirubin, LDH, creatinine as clinically indicated

PREMEDICATIONS:

Pre-medication is not required routinely

TREATMENT:

Drug	Dose	BCCA Administration Guideline
peginterferon alfa-2a	90 mcg weekly for 2 weeks, then escalate to 180 mcg once weekly*	Subcutaneous

Continue until disease progression or unacceptable toxicities.

* Other lower dosings may be used. Patients with complete response for more than 6 months can be considered for dose reduction such as longer intervals (e.g. 180 mcg every 10 to 14 days) or lower weekly dose.

DOSE MODIFICATIONS:

1. **Hematological:**

ANC ($x10^9$/L)	Dose
greater than or equal to 0.75	180 mcg
less than 0.75	135 mcg
less than 0.5	Delay until recovery; resume at 90 mcg

Platelets ($x10^9$/L)	Dose
greater than or equal to 50	180 mcg
25-50	90 mcg
less than 25	discontinue

PRECAUTIONS:

1. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.
2. **Depression:** Patients and their partners should be questioned about symptoms of depression. Consider reducing dose to 135 mcg or 90 mcg as necessary. Suicides have been reported in patients who became depressed on interferon.
3. **Liver dysfunction:** Consider reducing dose to 90 mcg with progressive ALT increases above baseline values. When ALT increase persists or is accompanied by

increased bilirubin or evidence of hepatic decompensation, therapy should be discontinued.

Call Dr. Donna Forrest or any member of the Leukemia/BMT Program of BC at (604) 875-4863 with any problems or questions regarding this treatment program.

Date activated:	1 Mar 2014
Date revised:	1 Aug 2016 (Class II registration deleted, TALLman lettering formatted)

References:

1. Kiladjian, JJ et al. High molecular response rate of polycythemia vera patients treated with pegylated interferon alpha–2a. Blood 2006;108:2037-2040.
2. Kiladjian, JJ et al. Pegylated interferon-alfa-2a induces complete hematologic and molecular responses with low toxicity in polycythemia vera. Blood 2008;112:3065-3072.
3. Gotlib J. World Health Organization-defined eosinophilic disorders: 2011 update on diagnosis, risk stratification, and management. Am J Hematol 2011;86:678-88.
4. Pardanani A. How I treat patients with indolent and smoldering mastocytosis (rare conditions but difficult to manage). Blood 2013;121(16):3085-94.