BCCA Protocol Summary for Myeloablative Conditioning Therapy Prior to Autologous and Allogeneic Hematopoietic Stem Cell Transplantation for Myeloid Malignancies Using IV Busulfan and Cyclophosphamide

**Protocol Code:** BMTIVBUCY

**Tumour Group:** Leukemia/BMT

**Contact Physician:** Dr. Donna Hogge

**ELIGIBILITY:**
- Patients with myeloid malignancies and good performance status and organ function suitable for myeloablative therapy followed by autologous and allogeneic stem cell transplantation.

**EXCLUSIONS:**
- Age greater than 65 years

**TESTS:**
- Baseline, then as indicated: CBC & differential, electrolytes, creatinine, bilirubin, alkaline phosphatase, magnesium, chest X-ray, pulmonary function tests, EKG, viral serology
- If clinically indicated: LVEF, bone marrow aspiration and biopsy

**PREMEDICATIONS:**
- Ondansetron 8mg PO/IV pre-chemotherapy then q12hours until 24 hours after chemotherapy completed
- Lorazepam 1mg PO/SL q12h and Dexamethasone 8mg PO/IV q12h with ondansetron
- Phenytoin 16mg/kg PO in 3 to 4 divided doses on day –8 followed by 5mg/kg PO daily at bedtime from day –7 through –3 inclusive.

**TREATMENT:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BCCA Administration Guideline</th>
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</thead>
<tbody>
<tr>
<td>IV Busulfan</td>
<td>3.2 mg/kg/day X 4 days (day –7 through day –4 prior to ASCT)</td>
<td>IV over 3 hours at a concentration of 0.5mg/ml in NS</td>
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<tr>
<td>Cyclophosphamide</td>
<td>60 mg/kg /day x 2 days (day –3 and –2 prior to ASCT)</td>
<td>IV in 500 ml NS over 2 hours, 4 hours after starting hyperhydration at 3000 ml/m²/day. Hyperhydration to continue until 48 hours after last dose of</td>
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Warning: The information contained in these documents are a statement of consensus of BC Cancer Agency professionals regarding their views of currently accepted approaches to treatment. Any clinician seeking to apply or consult these documents is expected to use independent medical judgement in the context of individual clinical circumstances to determine any patient’s care or treatment. Use of these documents is at your own risk and is subject to BC Cancer Agency’s terms of use available at [www.bccancer.bc.ca/legal.htm](http://www.bccancer.bc.ca/legal.htm)
PRECAUTIONS:

1. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.
2. **Thrombocytopenia**: Support with platelet transfusion will be required.
3. **General**: This protocol should be used only in an inpatient setting and supervised by physicians experienced in the use of myeloablative regimens and stem cell transplantation.

Call Dr. Donna Hogge at (604) 875-4863 with any problems or questions regarding this treatment program.

Date activated: 01 Jul 2003

Date revised: 01 May 2009 (unsafe abbreviations and symbols replaced)

References:

