BC Cancer Protocol Summary of the Conditioning Therapy for Autologous Stem Cell Transplant using high dose Melphalan in the Treatment of Multiple Myeloma

Protocol Code          BMTMM0301
Tumour Group          Leukemia/BMT
Contact Physician     Dr. Kevin W. Song

ELIGIBILITY:
- Patients with multiple myeloma with good performance status and organ function suitable for autologous stem cell transplantation.

EXCLUSIONS:
- Age greater than 70 years.

TESTS:
- Baseline, then as indicated: CBC & diff, sodium, potassium, creatinine, bilirubin, alk phos, LDH, magnesium, & calcium.

PREMEDICATIONS:
- ondansetron 8 mg PO/IV pre-chemotherapy then q12h x 4 doses
- dexamethasone 8 mg PO/IV pre-chemotherapy then q12 h x 4 doses

TREATMENT:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BC Cancer Administration Guideline</th>
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<tbody>
<tr>
<td>melphalan</td>
<td>200 mg/m² day –1 of PBSCT</td>
<td>IV in 500 mL NS</td>
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<td></td>
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<td>Concentration of IV bag must be between 0.1 mg/mL and 0.45 mg/mL (maximum of 272 mg in 500 mL NS). If the dose is greater than 272 mg, Pharmacy will divide the dose into TWO bags of 500 mL NS.</td>
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<td>Administer each bag over 15 to 60 minutes to prevent drug degradation.</td>
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<td>Hydrate with D5W-1/2NS with potassium chloride 20 mEq/L and magnesium sulfate 1 g/L IV at 250 mL/h for 2 hours pre and post melphalan.</td>
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</table>
DOSE MODIFICATIONS:

1. Renal Dysfunction

Dose modifications required for melphalan:

<table>
<thead>
<tr>
<th>Creatinine Clearance (mL/min)</th>
<th>Dose</th>
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<tr>
<td>greater than or equal to 50</td>
<td>200 mg/m²</td>
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<tr>
<td>Less than 50 *</td>
<td>140 mg/m²</td>
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* A melphalan dose of 100 mg/m² is not optimal treatment for plasma cell dyscrasias, but may be considered in individual patients, especially if other (non-renal function-related) medical concerns have been identified. Dialysis-dependent patients will require ongoing dialysis to be co-ordinated with the Nephrology Service.

PRECAUTIONS:

1. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.
2. **Thrombocytopenia**: Support with platelet transfusion may be required.

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

References: