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/m^2 day −1 of PBSCT</td>
<td>melphalan IV in NS</td>
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</table>

Concentration of melphalan must be between 0.1 mg/mL and 0.45 mg/mL (maximum of 225 mg in 500 mL NS). If the dose is greater than 225 mg, Pharmacy will divide the dose into TWO bags of 500 mL NS.

Administer each bag of melphalan over 15-60 minutes to prevent drug degradation.

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.
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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<tbody>
<tr>
<td>greater than or equal to 50</td>
<td>200 mg/m²</td>
</tr>
<tr>
<td>Less than 50</td>
<td>140 mg/m²</td>
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</table>

* 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: