BC Cancer Protocol Summary for CARBOplatin and Etoposide in the Treatment of Recurrent Ependymoma and Oligodendroglioma

Protocol Code CNCARV

Tumour Group Neuro-Oncology

Contact Physician Dr. Rebecca Harrison

ELIGIBILITY

Patients must have:
- Recurrent ependymoma, post-surgery and/or radiation therapy,
- Recurrent oligodendroglioma
  - use as 2\textsuperscript{nd} line treatment, or
- Recurrent high grade gliomas, including oligodendroglioma
  - use as 3\textsuperscript{rd} and 4\textsuperscript{th} line treatment

Patients should have:
- Life expectancy greater than 3 months.
- Adequate renal, hepatic and bone marrow function.

TESTS:

- Baseline: CBC and differential, platelets, creatinine, ALT, bilirubin, sodium, potassium, magnesium, calcium
- Before each treatment: CBC and differential, platelets, creatinine
- Day 14 and 21 after 1\textsuperscript{st} cycle (and in subsequent cycles if dose-modifications made):
  CBC and differential
- CT/MRI every second to third cycle
- If clinically indicated: ALT, Bilirubin

PREMEDICATIONS:

- Antiemetic protocol for High/Moderate emetogenic chemotherapy
- Hydrocortisone & diphenhydramine for history of hypersensitivity to etoposide
**TREATMENT:**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BC Cancer Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBOplatin</td>
<td>$\text{Dose} = \text{AUC}^* \times (\text{GFR} + 25)$</td>
<td>IV in 100 to 250 mL NS over 30 min</td>
</tr>
<tr>
<td>etoposide</td>
<td>100 mg/m²</td>
<td>IV in 250 to 1000 mL NS over 45 min to 1 hour 30 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(use non-DEHP bag and non-DEHP tubing with 0.2 micron in-line filter)</td>
</tr>
</tbody>
</table>

*\text{AUC} = 5*

GFR preferably from nuclear renogram, if not possible use:

$$\text{GFR} = \frac{\text{N} \times (140 - \text{age in years}) \times \text{wt (kg)}}{\text{serum creatinine (micromol/L)}}$$

$$\text{N} = 1.04 \text{ (women)} \text{ or } 1.23 \text{ (men)}$$

The estimated GFR calculated using the Cockcroft-Gault equation should be capped at 125 mL/min when it is used to calculate the initial carboplatin dose. When a nuclear renogram is available, this clearance would take precedence.

Repeat every 28 days until progression as tolerated

**DOSE MODIFICATIONS:**

1. For Hematology: modify both drugs.

<table>
<thead>
<tr>
<th>ANC ($\text{x10}^9/\text{L}$) and</th>
<th>Platelets ($\text{x10}^9/\text{L}$)</th>
<th>Dose (both drugs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 1.5</td>
<td>greater than or equal to 100</td>
<td>100% delay</td>
</tr>
<tr>
<td></td>
<td>less than 100</td>
<td>delay</td>
</tr>
<tr>
<td>1.0 to less than 1.5</td>
<td>greater than or equal to 100</td>
<td>75% delay</td>
</tr>
<tr>
<td></td>
<td>less than 100</td>
<td>delay</td>
</tr>
<tr>
<td>less than 1.0</td>
<td>greater than or equal to 100</td>
<td>delay</td>
</tr>
<tr>
<td></td>
<td>less than 100</td>
<td>delay</td>
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</tbody>
</table>

- For platelets nadir less than 50 $\text{x10}^9/\text{L}$, 25% dose reduction for both drugs.
- For neutropenic fever, 25% dose reduction for both drugs.
2. For serum creatinine 1.5 times upper limit normal, review program.
3. For symptomatic neuropathy - review program.
4. **Hepatic dysfunction**: if ALT greater than 5 x ULN or bilirubin greater than 25 micromol/L, hold chemotherapy until liver function returns to normal.

**PRECAUTIONS:**

1. Hypersensitivity: Monitor infusion of etoposide for the first 15 minutes for signs of hypotension. Hypersensitivity reactions have also been reported for CARBOplatin. Refer to BC Cancer Hypersensitivity Guidelines.
2. Extravasation: etoposide causes irritation if extravasated. Refer to BC Cancer Extravasation Guidelines.
3. Neutropenia: Fever or other evidence of infection must be assessed promptly and treated aggressively.
4. Progression - greater than 25% increase in measurable disease or progressive neurological dysfunction.

Call Dr. Rebecca Harrison or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.