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

Protocol Code          CNCARV
Tumour Group          Neuro-Oncology
Contact Physician     Dr. Brian Thiessen

ELIGIBILITY
1. Diagnosed recurrent ependymoma, post-surgery and/or Radiation Therapy.
2. 2nd line for recurrent oligodendroglioma.
3. 3rd and 4th line treatment of recurrent high grade gliomas, including oligodendroglioma
4. Life expectancy greater than 3 months.
5. Normal renal, hepatic and bone marrow function.

TESTS:
- **Baseline:** CBC and differential, platelets, creatinine, AST, ALT, bilirubin, electrolytes, magnesium, calcium
- **Before each treatment:**
  - Day 1: CBC and differential, platelets, creatinine
  - Day 14 and 21 CBC and differential
- CT/MRI every second to third cycle
- If clinically indicated: liver function tests

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>BCCA Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARBOplatin</td>
<td>Dose = AUC* x (GFR+25)</td>
<td>IV in 250 mL NS over 30 min</td>
</tr>
<tr>
<td>etoposide</td>
<td>100 mg/m²</td>
<td>IV in 500 mL NS over 45 min (use non-DEHP bag and non-DEHP tubing with 0.22 micron or smaller in-line filter)</td>
</tr>
</tbody>
</table>
AUC = 5

GFR preferably from nuclear renogram, if not possible use:

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

N = 1.04 (women) or 1.23 (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 (x10^9/L)</th>
<th>Platelets (x10^9/L)</th>
<th>Dose (all drugs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than 1.5 and greater than or equal to 100</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>less than 100</td>
<td>delay</td>
<td></td>
</tr>
<tr>
<td>1 to 1.5 and greater than or equal to 100</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>less than 100</td>
<td>delay</td>
<td></td>
</tr>
<tr>
<td>less than 1 and greater than or equal to 100</td>
<td>delay</td>
<td></td>
</tr>
<tr>
<td>less than 100</td>
<td>delay</td>
<td></td>
</tr>
</tbody>
</table>

- For platelets nadir less than 50 x10^9/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 AST/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 BCCA Hypersensitivity Guidelines.
2. Extravasation: etoposide causes irritation if extravasated. Refer to BCCA 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. Brian Thiessen or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.

Date activated: N/A
Date revised: 1 Apr 2017 (Reformatted with various clarifications)