BC Cancer Protocol Summary for First-Line Treatment of Advanced Non-Small Cell Lung Cancer (NSCLC) with CARBOplatin and PACLitaxel

Protocol Code: LUAVPC

Tumour Group: Lung

Contact Physician: Dr. Christopher Lee

ELIGIBILITY:
- Previously untreated patients with Stage IIIB or IV disease.
  - May be used as second- or third-line therapy if prior treatment with immunotherapy or targeted agents
- Also:
  - Previously untreated stage IIIA disease not amenable to combined modality therapy
  - Inoperable early stage disease
  - Recurrent disease, including individuals treated with adjuvant chemotherapy following resection of early stage disease or individuals treated with combined modality therapy for locally advanced disease
- Adequate hematologic, hepatic and renal function
- Age greater than or equal to 18 years
- ECOG performance status 0, 1 or 2

TESTS:
- Baseline: CBC & differential, platelets, creatinine, liver function tests, chest X-ray, camera nuclear renogram for GFR (if available)
  - C-reactive protein and albumin (optional, and results do not have to be available to proceed with first treatment)
- Before each treatment: CBC & differential, platelets, creatinine, any initially elevated tumor marker
- If clinically indicated: liver function tests prior to each cycle

PREMEDICATIONS:
- PACLitaxel must not be started unless the following drugs have been given:
  - 45 minutes prior to PACLitaxel:
    - dexamethasone 20 mg IV in 50 mL NS over 15 minutes
  - 30 minutes prior to PACLitaxel:
    - diphenhydramINE 50 mg IV and Ranitidine 50 mg IV in 50 mL NS over 20 minutes (compatible up to 3 hours when mixed in bag)
- Antiemetic protocol for High emetogenic chemotherapy (see protocol SCNAUSEA)
TREATMENT: (Give PACLItaxel first)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BC Cancer Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>PACLItaxel</td>
<td>200 mg/m²</td>
<td>IV in 500 mL NS over 3 hours (use non-DEHP bag and non-DEHP tubing with 0.22 micron or smaller inline filter)</td>
</tr>
<tr>
<td>CARBOplatin</td>
<td>AUC 6</td>
<td>IV in 250 mL NS over 30 minutes</td>
</tr>
</tbody>
</table>

- Repeat every 21 days x 4-6 cycles

*GFR preferably from nuclear renogram, if not possible use:

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

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

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.

DOSE MODIFICATIONS:

1. **Hematology (on treatment day):**

<table>
<thead>
<tr>
<th>ANC (x 10⁹/L)</th>
<th>Platelets (x 10⁹/L)</th>
<th>Doses (both drugs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 1</td>
<td>And</td>
<td>greater than or equal to 100</td>
</tr>
<tr>
<td>less than 1</td>
<td>Or</td>
<td>less than 100</td>
</tr>
</tbody>
</table>

2. **Arthralgia and/or myalgia:** If arthralgia and/or myalgia of grade 2 (moderate) or higher is not relieved by adequate doses of NSAIDs or acetaminophen with codeine (e.g., TYLENOL #3®), a limited number of studies report a possible therapeutic benefit using:
   - predni SONE 10 mg PO bid x 5 days starting 24 hours post-PACLItaxel
   - gabapentin 300 mg PO on day before chemotherapy, 300 mg bid on treatment day, then 300 mg tid x 7 to 10 days

   If arthralgia and/or myalgia persists, reduce subsequent PACLItaxel doses to 175 mg/m².

3. **Neuropathy:** Dose modification or discontinuation may be required (see BC Cancer Cancer Drug Manual).
4. **Renal dysfunction**: If significant increase (greater than 20%) in creatinine, repeat nuclear renogram (if available) and recalculate CARBOplatin dose using new GFR.

5. **Hepatic dysfunction**: Dose reduction may be required for PACLitaxel (see BC Cancer Drug Manual)

**PRECAUTIONS:**

1. **Hypersensitivity**: Reactions are common. See BC Cancer Hypersensitivity Guidelines

<table>
<thead>
<tr>
<th>Symptoms (e.g. mild flushing, rash, pruritus)</th>
<th>Treatment</th>
</tr>
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<tr>
<td><strong>mild</strong> symptoms (e.g. mild flushing, rash, pruritus)</td>
<td>• complete PACLitaxel infusion. Supervise at bedside&lt;br&gt;• no treatment required</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Symptoms (e.g. moderate rash, flushing, mild dyspnea, chest discomfort, mild hypotension)</th>
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<tr>
<td><strong>moderate</strong> symptoms (e.g. moderate rash, flushing, mild dyspnea, chest discomfort, mild hypotension)</td>
<td>• stop PACLitaxel infusion&lt;br&gt;• give IV diphenhydramINE 25-50 mg and IV hydrocortisone IV 100 mg&lt;br&gt;• after recovery of symptoms resume PACLitaxel infusion at 20 mL/hr for 5 minutes, 30 mL/hr for 5 minutes, 40 mL/hr for 5 minutes, then 60 mL/hr for 5 minutes. If no reaction, increase to full rate.&lt;br&gt;• if reaction recurs, discontinue PACLitaxel therapy</td>
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<th>Symptoms (i.e. one or more of respiratory distress requiring treatment, generalized urticaria, angioedema, hypotension requiring therapy)</th>
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<tr>
<td><strong>severe</strong> symptoms (i.e. one or more of respiratory distress requiring treatment, generalized urticaria, angioedema, hypotension requiring therapy)</td>
<td>• stop PACLitaxel infusion&lt;br&gt;• give IV antihistamine and steroid as above. Add epinephrine or bronchodilators if indicated&lt;br&gt;• discontinue PACLitaxel therapy</td>
</tr>
</tbody>
</table>

2. **Extravasation**: PACLitaxel causes pain and may, rarely, cause tissue necrosis if extravasated. Refer to BC Cancer Extravasation Guidelines.

3. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.

**Call Dr. Christopher Lee or tumour group delegate at (604) 930-2098 or 1-800-523-2885 with any problems or questions regarding this treatment program.**

**References:**
