BC Cancer Protocol Summary for Second-Line Treatment of Extensive Stage Small Cell Lung Cancer (SCLC) with Irinotecan With or Without Platinum

*Protocol Code:* LUSCPI

*Tumour Group:* Lung

*Contact Physician:* Dr. Christopher Lee

**ELIGIBILITY:**
- Recurrent/progressive small cell lung cancer following first-line therapy
- ECOG performance status 0-2
- In any one patient either LUSCTOP or LUSCPI (i.e. – one or the other, **but not both**) will be reimbursed

**EXCLUSIONS:**
- ECOG performance status 3 to 4
- Inadequate hepatic function (bilirubin greater than or equal to 35 micromol/L; ALT/Alkaline Phosphatase greater than or equal to 5 x ULN)
- Greater than 3 loose stools per day in patients without colostomy or ileostomy

**TESTS:**
- Baseline: CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin and LDH
- Before each treatment:
  - Day 1 – CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin and LDH
  - Day 8 – CBC & differential, platelets

**PREMEDICATIONS:**
- Antiemetic protocol for highly emetogenic chemotherapy if using CISplatin or CARBOplatin (see protocol SCNAUSEA)
- Antiemetic protocol for moderate emetogenic chemotherapy if using irinotecan alone (see protocol SCNAUSEA)
- Prochlorperazine should be avoided on the same day as irinotecan treatment due to the increased incidence of akathisia
- Atropine may be required for treatment or prophylaxis of diarrhea (see precautions)
TREATMENT:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BC Cancer Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>irinotecan</td>
<td>50 mg/m²/day on day 1 and day 8</td>
<td>IV in D5W 250 to 500 mL over 30 minutes to 1 hour</td>
</tr>
</tbody>
</table>

Optional:

| CISplatin     | 75 mg/m²/day on day 1                    | Prehydrate with NS 1000 mL over 1 hour, then CISplatin IV in NS 500 mL with potassium chloride 20 mEq, magnesium sulfate 1 g, mannitol 30 g over 1 hour |

OR

| CARBOplatin   | AUC 5 DAY 1 only                          | IV in NS 100 to 250 mL over 30 minutes.                 |

Dose = AUC 5 x (GFR* + 25)

Repeat every 21 days until disease progression, unacceptable toxicity or 6 cycles

All patients should be advised to obtain an adequate supply of loperamide (IMODIUM®) with explicit instructions for the management of diarrhea.

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

\[
\text{GFR} = \frac{N \times (140-\text{age in years}) \times \text{wt (kg)}}{\text{serum creatinine (micromol/L)}} + 25
\]

*N = 1.04 (women) or 1.23 (men)

*The estimated GFR 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:

Day 1 of each cycle:

<table>
<thead>
<tr>
<th>ANC (x 10⁹/L)</th>
<th>Platelets (x 10⁹/L)</th>
<th>Dose (both drugs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 1.5 and greater than or equal to 100</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>less than 1.5 or less than 100</td>
<td>Delay*</td>
<td></td>
</tr>
</tbody>
</table>

* If ANC less than 1.0 or platelets less than 75, consider dose reduction to 75%
Day 8 of each cycle:

<table>
<thead>
<tr>
<th>ANC (x 10^9/L)</th>
<th>Platelets (x 10^9/L)</th>
<th>Irinotecan Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 1.5</td>
<td>and</td>
<td>100%</td>
</tr>
<tr>
<td>1.0 to less than 1.5</td>
<td>or</td>
<td>85%</td>
</tr>
<tr>
<td>0.5 to less than 1.0</td>
<td>or</td>
<td>70%</td>
</tr>
<tr>
<td>less than 0.5</td>
<td>or</td>
<td>Omit</td>
</tr>
</tbody>
</table>

2. Neutropenic Fever: Delay, then consider dose reduction to 75% when resolved

3. Renal Dysfunction:

<table>
<thead>
<tr>
<th>Calculated Cr Clearance (mL/min)</th>
<th>CISplatin dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 60</td>
<td>100%</td>
</tr>
<tr>
<td>45 to less than 60</td>
<td>80% CISplatin (same prehydration as 75 mg/m² dose) or go to CARBOplatin option</td>
</tr>
<tr>
<td>less than 45</td>
<td>Hold CISplatin or delay with additional IV fluids or go to CARBOplatin option</td>
</tr>
<tr>
<td>less than 30</td>
<td>Omit</td>
</tr>
</tbody>
</table>

4. Diarrhea:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Diarrhea</th>
<th>Irinotecan Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 2</td>
<td>Increase of up to 6 stools/day, or nocturnal stools or moderate increase in loose watery colostomy output</td>
<td>100%</td>
</tr>
<tr>
<td>3 to 4</td>
<td>Increase of 7 or more stools/day or incontinence, malabsorption, severe increase in loose water, colostomy output, grossly bloody diarrhea, may require parenteral support</td>
<td>Delay until Grade 2 or less, then reduce dose to 75%</td>
</tr>
</tbody>
</table>

PRECAUTIONS:

1. Diarrhea may be life-threatening and requires prompt, aggressive treatment.
   - Early diarrhea or abdominal cramps occurring within the first 24 hours is treated with atropine IV or SC 0.3 to 1.2 mg. Prophylactic atropine may be required for subsequent treatments.
   - Late diarrhea must be treated with loperamide (eg, IMODIUM®). The loperamide dose is higher than recommended by the manufacturer. Instruct patient to have loperamide on hand and start treatment at the first poorly formed or loose stool, or earliest onset of more frequent stool than usual:
     - 4 mg stat
     - then 2 mg every 2 hours until diarrhea-free for 12 hours
     - may take 4 mg every 4 hours at night
2. **Other cholinergic symptoms** may occur during or shortly after infusion of irinotecan, including rhinorrhea, increased salivation, lacrimation, diaphoresis and flushing. These should be treated with atropine IV or SC 0.3 mg to 0.6 mg. This dose may be repeated at the physician’s discretion. Blood pressure and heart rate should be monitored. Prophylactic atropine may be required for subsequent treatments.

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

4. **Renal Toxicity**: Nephrotoxicity is common with CISplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycoside antibiotics. Use caution with pre-existing renal dysfunction.

5. **Gilbert’s Syndrome** increases the risk of irinotecan-induced toxicity (Ann Oncol 1997;8:1049-51). A screen for Gilbert’s Syndrome using direct/indirect serum bilirubin is recommended.

6. **Hepatic Dysfunction**: irinotecan has not been studied in patients with bilirubin greater than 35 micromol/L or ALT greater than 3x the upper limit of normal if no liver metastases, or ALT greater than 5x the upper limit of normal with liver metastases.

7. **Pulmonary Toxicity**: Severe pulmonary toxicity has been reported rarely. Supportive care is required.

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: