BC Cancer Protocol Summary for Treatment of ALK-Positive Advanced Non-Small Cell Lung Cancer (NSCLC) with Alectinib

Protocol Code: ULUAVALE

Tumour Group: Lung

Contact Physician: Dr. Christopher Lee

ELIGIBILITY:
- Advanced non-small cell lung cancer
- Laboratory confirmed anaplastic lymphoma kinase (ALK)-positive tumour defined as either IHC 3+ or FISH positive
- ECOG 0-2
- First-line monotherapy
- Second-line monotherapy for disease progression after prior platinum-based chemotherapy
- Second-line monotherapy for disease progression on crizotinib, or in patients with intolerance to crizotinib
- **BC Cancer Compassionate Access Program (CAP) approval must be obtained**
- **NOTE:**
  - Sequential ALK targeted therapies (e.g., crizotinib, ceritinib) is **not** funded after first-line alectinib

EXCLUSIONS:
- ROS1 mutation
- Baseline symptomatic bradycardia or QTc interval > 470 msec
- Severe renal impairment with CrCl < 30 mL/min

TESTS:
- Baseline: alkaline phosphatase, ALT, total bilirubin, LDH, heart rate, blood pressure
  - C-reactive protein and albumin (optional, and results do not have to be available to proceed with first treatment)
- During treatment:
  - alkaline phosphatase, ALT, total bilirubin and LDH should be monitored every 2 weeks for the first three months of treatment, and at each subsequent visit thereafter
  - CPK levels should be monitored every 2 weeks for the first month of treatment and as clinically indicated thereafter
- As required: calcium, potassium, ECG, heart rate and blood pressure to monitor for cardiotoxicity; creatinine; CPK; chest radiograph for monitoring of dyspnea to rule out development of pneumonitis; chest X-ray and scans to monitor index lesions.
PREMEDICATIONS:
- no premedications needed

TREATMENT:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BC Cancer Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>alectinib</td>
<td>600 mg twice daily</td>
<td>PO</td>
</tr>
</tbody>
</table>

**Hepatic Impairment:** in patients with underlying severe hepatic impairment the recommended starting dose is 450 mg PO twice daily

**Dose reduction:**
- Dose level -1: 450 mg twice daily
- Dose level -2: 300 mg twice daily

- Careful re-evaluation after initiation of therapy is essential as alectinib should be continued only if tumour regression continues or the disease is stable and cancer-related symptoms have improved. Continued alectinib for “psychological” palliation in the face of progressive disease is inappropriate.

DOSE MODIFICATIONS:

1. **Hepatic Dysfunction:**

<table>
<thead>
<tr>
<th>ALT elevation to &gt; 5.0 x ULN with bilirubin ≤ 2 x ULN</th>
<th>Withhold until recovery of ALT to ≤ 3.0 x ULN or baseline, then resume at reduced dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALT elevation to &gt; 3.0 x ULN and concurrent bilirubin elevation to &gt; 2 x ULN (in absence of cholestasis or hemolysis)</td>
<td>Permanently discontinue</td>
</tr>
</tbody>
</table>


3. **Bradycardia:** for symptomatic, non-life threatening bradycardia, withhold treatment until asymptomatic or heart rate increases to ≥ 60 bpm. Permanently discontinue for recurrent life-threatening bradycardia or life-threatening bradycardia which occurs in the absence of concurrent bradycardic/hypotensive medications. Refer to BC Cancer Drug Manual.

4. **Myalgia/CPK Elevation:** treatment interruption may be required for symptom management or for elevation of CPK to > 5 x ULN. Refer to BC Cancer Drug Manual.
5. **Pneumonitis**: permanently discontinue alectinib for development of any grade of treatment-related pneumonitis.

6. **Gastrointestinal perforation**: permanently discontinue alectinib for development of gastrointestinal perforation.

**PRECAUTIONS:**

1. **Cardiotoxicity**: Bradycardia, both symptomatic and asymptomatic, has been observed in patients treated with alectinib. Heart rate and blood pressure should be monitored regularly during treatment and co-administration of medications that lower heart rate should be avoided to the extent possible. If avoidance is not possible, patients should be closely monitored. Caution should be exercised in patients with a lower baseline heart rate, history of syncope or arrhythmia, sick sinus syndrome, sinoatrial block, atrioventricular (AV) block, ischemic heart disease, or congestive heart failure. Cardiology consult may be required.

2. **Gastrointestinal Perforation**: Gastrointestinal perforation with fatal outcome, has occurred in <1% of patients treatment with alectinib. Exercise caution in patients at increased risk for gastrointestinal perforation – concomitant use of medications with risk of gastrointestinal perforation, history of diverticulitis, metastases to the gastrointestinal tract. Alectinib should be permanently discontinued in patients who develop gastrointestinal perforation.

3. **Respiratory**: Alectinib has been associated with cases of ILD/pneumonitis. Patients should be regularly monitored throughout treatment for pulmonary symptoms indicative of pneumonitis.

4. **Hepatic Impairment**: Patients with underlying severe hepatic impairment should receive a dose reduction of alectinib. Dose adjustment is not required for patients with underlying mild or moderate hepatic impairment. However, for all patients with hepatic impairment, appropriate monitoring is advised.

5. **Hepatotoxicity**: Bilirubin and transaminase elevations have been reported and generally occur within the first three months of treatment. Elevations are usually reversible with treatment interruption/dose reduction. However, biopsy confirmed *drug-induced liver injury* has occurred in some patients. Monitor liver function regularly during treatment and increase test frequency if clinically indicated.

6. **Musculoskeletal**: Myalgia can sometimes be severe and may be associated with elevated *creatine phosphokinase (CPK)*. Management of symptoms may require alectinib dose modification or temporary discontinuation of treatment.

7. **Photosensitivity**: Photosensitivity has been reported. Prolonged sun exposure should be avoided. If exposure is unavoidable, broad-spectrum sun screen and lip balm of at least SPF 50 should be used during treatment and for seven days after discontinuation of treatment.

8. **Vision disorders**: Diplopia, blurry vision, vitreous floaters, asthenopia, and reduced visual acuity have all been reported. Patients experiencing vision disorders should be cautious when driving or operating machinery.
Call Dr. Christopher Lee or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions relating to this treatment program.

References: