
Protocol Code: LUAVPEM
Tumour Group: Lung
Contact Physician: Dr. Christopher Lee

ELIGIBILITY:
- Advanced non-small cell lung cancer
  - Restricted to disease of non-squamous cell histology
  - Disease of squamous cell histology may be treated only if a contraindication to Docetaxel exists
- Prior treatment with first-line chemotherapy
  - May be used as third-line systemic therapy if prior treatment with an EGFR tyrosine kinase inhibitor as first- or second-line treatment
- ECOG performance status 0, 1 or 2
- In any one patient either LUAVPEM or LUAVDOC (i.e.- one or the other, but not both) will be reimbursed

EXCLUSIONS:
- ECOG 3 or 4
- Prior treatment with LUAVPP or ULUAVPMTN; BC Cancer Agency Compassionate Access Program (CAP) approval must be obtained.

TESTS:
- Baseline: CBC & differential, platelets, creatinine, liver function tests, bilirubin
  - 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, liver function tests, bilirubin
- Weekly: CBC & differential, platelets during cycles 1 and 2; may be omitted in subsequent cycles
- If clinically indicated: creatinine

PREMEDICATIONS:
- Vitamin supplementation mandatory starting at least 7 days prior to the first cycle, and to continue while on treatment until 21 days after last Pemetrexed dose:
  - folic Acid 0.4 mg PO daily
  - vitamin B12 1000 mcg IM every 9 weeks
- Prophylaxis for skin rash: dexamethasone 4 mg PO BID for 3 days, beginning the day before chemotherapy. (May proceed with chemotherapy even if patient has not taken the pre-treatment dexamethasone doses. Instruct patient to begin immediately.)
TREATMENT:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>BCCA Administration Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>pemetrexed</td>
<td>500 mg/m²</td>
<td>IV in 100 mL NS over 10 minutes</td>
</tr>
</tbody>
</table>

- Repeat every 21 days x 8 cycles

DOSE MODIFICATIONS:

1. HEMATOLOGY

   Based on day 1 counts

<table>
<thead>
<tr>
<th>ANC (x 10⁹/L)</th>
<th>Platelets (x 10⁹/L)</th>
<th>Dose</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>

   Based on nadir counts

<table>
<thead>
<tr>
<th>ANC (x 10⁹/L)</th>
<th>Platelets (x 10⁹/L)</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 0.5 and greater than or equal to 50</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>less than 0.5 and greater than or equal to 50</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>any and less than 50</td>
<td>50%</td>
<td></td>
</tr>
</tbody>
</table>

2. RENAL DYSFUNCTION

<table>
<thead>
<tr>
<th>Creatinine Clearance mL/min</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than or equal to 45</td>
<td>100%</td>
</tr>
<tr>
<td>less than 45</td>
<td>Delay</td>
</tr>
</tbody>
</table>
3. MUCOSITIS

For next cycle

<table>
<thead>
<tr>
<th>Mucositis Grade</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>100%</td>
</tr>
<tr>
<td>3-4</td>
<td>50% previous dose*</td>
</tr>
</tbody>
</table>

*Discontinue treatment after two dose reductions

4. OTHER TOXICITIES

For any other grade 3 or higher toxicity, delay treatment until toxicity resolves, then resume with 25% dose decrease if considered appropriate to resume by attending oncologist

PRECAUTIONS:

1. **Vitamin supplements**: Appropriate prescription of folic Acid and vitamin B12 is essential. The incidence of adverse events such as febrile neutropenia related to pemetrexed is higher without vitamin supplementation.
2. **NSAIDS**: Concurrent nonsteroidal anti-inflammatory agents should be avoided as they may decrease the renal clearance of pemetrexed.
3. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.

Contact 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.

Date activated: 01 May 2007

Date revised: 3 Nov 2016 (Tests requirements and treatment cycle updated)

REFERENCES: