Provincial Non Small Cell Lung Cancer Treatment Guidelines

Approved at the Provincial Thoracic Oncology meeting, March 12, 2011

Clinical practice guidelines have been developed after multi-disciplinary consensus based on best available literature. As the name suggests, these are to be used as a guide only. These guidelines do not replace Physician judgment which is based on multiple factors including, but not limited to, the clinical and social scenario, comorbidities, performance status, age, available resources and funding considerations.

Participating in clinical trials is encouraged when available.

SCREENING

None

WORK-UP

1. Biopsy:  CORE is preferred to enable us to perform further studies that would have impact on patients future management.
2. H&P, Labs, CT chest and upper abdomen.
3. PFTs
4. Mediastinoscopy / EBUS as indicated
5. PET scan as clinically indicated.
6. CT/MRI brain as indicated.
7. Bone scan as clinically indicated.

A1. OPERABLE: (stage 0 [Tis], stage I A[T1] Stage 1B[T2a], stage II A[T1N1,T2aN1,T2bN0] StageIIB[T2bN1, T3N0])

1. Lobectomy.  Pneumonectomy may be required in certain circumstances.
2. Minimal surgical resection (segmentectomy or wedge resection)
   ▪ For impaired PFTs or significant comorbidities.
   ▪ Consideration in small peripheral tumours.
3. External beam radiation with curative intent OR stereotactic radiosurgery with curative intent
   ▪ For medically inoperable or those who refuse surgery.
   ▪ Radiation dose 66-70Gy. Hypofractionated schedule of 60Gy in 20 # can be used in selected cases.
4. Adjuvant chemotherapy post surgery
   ▪ If tumour 4 cm or greater OR Node positive.
   ▪ Cisplatin + Vinorelbine x 4 cycles (See Appendix)
   ▪ If unable to tolerate Cisplatin → Carboplatin + Paclitaxel x 4 cycles (See Appendix)
5. Positive margin post surgery
   - Re-resection if feasible for positive margin.
   - If re-resection not possible for positive margin, 60-66Gy external beam radiation to tumour bed.

6. Incidental, N2 disease post surgery.
   - Adjuvant chemotherapy
   - Adjuvant EBRT, 50-54Gy to area of resected N2 disease with no gross residual disease. 60-66Gy to any gross residual disease.

A2. INOPERABLE (stages IIIA [T1, T2, (N2) or (T3), N1, N2] or (T4), N0, N1 and IIB [T4, N1 or (Any T) N3])

1. Induction chemo-RT → surgery
   - Only for upfront resectable Stage III disease.
   - Selected patients.
   - Induction chemoradiation: Cisplatin 50 mg/m² iv d1, 8, 29 and 36 + Etoposide 50 mg/m² iv d1-5 and 29-33. Radiotherapy 45Gy-60Gy in 1.8 to 2Gy per fraction.
   - Surgical resection 3-5 weeks later
   - Adjuvant chemotherapy: Cisplatin 50 mg/m² iv d1, 8, 29 and 36 + Etoposide 50 mg/m² iv d1-5 and 29-33
   - If unable to use cisplatin → Weekly Carboplatin AUC 2 + Paclitaxel 45 mg/m² weekly with RT followed by surgery and 2 cycles of Carboplatin AUC 6 + Paclitaxel 200 mg/m² as consolidation chemotherapy.

2. Concomitant chemo-RT (standard of care)
   - Cisplatin 50mg/m² d 1, 8 + Etoposide 50mg/m² d 1-5 x 4 cycles with RT OR Weekly Carboplatin AUC 2 + Paclitaxel 45 mg/m² weekly with RT followed by 2 cycles of Carboplatin AUC 6 + Paclitaxel 200 mg/m² as consolidation chemotherapy.
   - EBRT 60-66Gy to gross disease. Preferably with cycle-1 of chemotherapy

3. Sequential chemotherapy followed by radiation
   - For patients in whom radical radiation can not be delivered concurrently upfront due to technical or medical reasons.
   - Platinum based doublets regimens.
   - EBRT 60-66Gy to gross disease.

4. Radiation alone with a radical intent
   - Only for patients with contraindications for chemotherapy.
   - EBRT 66Gy-70Gy to gross disease.

A3. SUPERIOR SULCUS/CHEST WALL TUMOUR (T3, Selected T4, (N0-1))

1. Concomitant chemo-RT followed by surgery (if resectable upfront)
   - Induction chemoradiation: Cisplatin 50 mg/m² iv d1, 8, 29 and 36 + Etoposide 50 mg/m² iv d1-5 and 29-33 Radiotherapy 1.8 Gy/d over 5 weeks to 45 Gy
   - Surgical resection 3-5 weeks later
- Adjuvant chemotherapy: Cisplatin 50 mg/m² iv d1, 8, 29 and 36 + Etoposide 50 mg/m² iv d1-5 and 29-33

2. Other scenarios to be managed as for non small cell lung cancer in general.

A4. STAGE IV AND SOME STAGE III (poor performance, S/C nodes, etc.)

1. Solitary brain metastasis on MRI
   - Surgical resection may be considered of solitary metastasis followed by WBRT (Example, 36Gy in 12#)
   - WBRT followed by Stereotactic boost is also a reasonable option.
   - Lung disease may be treated as deemed appropriate by multidisciplinary team.

2. Systemic therapy
   - 1st line: Platinum based doublet or EGFR inhibitor (if EGFR mutation positive)
   - 2nd line: Single agent chemotherapy OR EGFR inhibitors if not used.
   - 3rd line: Single agent chemotherapy OR EGFR inhibitors if not used.
   - Maintenance therapy can be considered with Pemetrexed or Erlotinib.

3. Palliative RT for symptoms or impending findings on CT likely to pose problems if left alone.
   - Multiple dose schedules can be used based on clinical scenario. 8Gy in 1#, 20Gy in 5#, 30Gy in 10#, 36Gy in 12#, 40Gy in 16# are all reasonable options if RT is delivered alone.

FOLLOW UP

- In patients treated with curative intent, perform a history and physical examination every 3–6 months for the first 3 years, every 6–12 months for the next 2 years, annually thereafter.
- In patients who might be candidates for additional treatment on relapse or progression, Chest X-ray may be performed every 3-6 months for the first 2 years and then annually, although there is currently no randomized evidence to justify this approach.
- Routine use of blood tests, PET scanning, sputum cytology, tumour markers and bronchoscopy should only be performed as clinically indicated.

Appendix (adjuvant chemotherapy for 4 cycles)

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Chemotherapy</th>
<th>Dosage</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cisplatin 75 to 80mg/2 Day 1 + Vinorelbine 25mg/m² Day 1, 8</td>
<td>Every 21 days</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Cispaltin 50mg/m² Day 1, 8 + Vinorelbine 25mg/m² Day 1, 8, 15, 22</td>
<td>Every 28 days</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Carboplatin AUC 6 Day 1+ Paclitaxel 200mg/m² Day 1</td>
<td>Every 21 days</td>
<td></td>
</tr>
</tbody>
</table>
NOTE: Most patients do not tolerate day 22 of vinrolebine (can omit) and paclitaxel dose can be reduced to 175mg/m2.

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References


Additional resources:

www.nccn.org

www.cancer.gov

http://www.bccancer.bc.ca

http://www.cancercare.on.ca