BC Cancer Protocol Summary for Treatment of Limited Stage Small Cell Lung Cancer using Platinum and Etoposide with Radiation Therapy

Protocol Code	*LUSCPERT*
Tumour Group	*Lung*
Contact Physician	*Dr. Christopher Lee*

ELIGIBILITY:
- Small Cell Lung Cancer
  - Limited stage disease
- ECOG performance status 0 to 2
- Suitable candidate for thoracic radiation

EXCLUSIONS:
- ECOG performance status 3 or higher

TESTS:
- Baseline: CBC & differential, platelets, creatinine, ALT, Alk Phos, LDH, bilirubin
- Before each cycle: CBC, differential, platelets, creatinine
- If clinically indicated: bilirubin

PREMEDICATIONS:
- Antiemetic protocol for moderately emetogenic chemotherapy as long as CISplatin dose is not greater than or equal to 50 mg. If CISplatin is greater than or equal to 50 mg, or if giving CARBOplatin, use antiemetic protocol for highly emetogenic chemotherapy (see protocol SCNAUSEA).
- hydrocortisone & diphenhydrAMINE for history of hypersensitivity to etoposide

TREATMENT:

Drug	Dose	BC Cancer Administration Guideline
(Drugs can be given in any sequence)		
CISplatin	25 mg/m^2/day x 3 days (days 1 to 3)	IV in 100 to 250 mL NS over 30 minutes
etoposide	100 mg/m^2/day x 3 days (days 1 to 3)	IV in 250 to 1000 mL NS over 45 minutes to 1 hour 30 minutes (use non-DEHP equipment with 0.2 micron in-line filter)

Activated: 1 Mar 2009 Revised: 1 Apr 2023 (title clarified, premedications updated, cisplatin bag size clarified, dose modifications and precautions revised)

- **Usual plan for radiotherapy to start with the second cycle of chemotherapy, although radiotherapy may be started with later cycles dependent on clinical circumstances**
- **Repeat every 21 days x 4** to **6 cycles**
  - **May be given every 28 days at physician's discretion**

- Prophylactic co-trimoxazole DS one tablet po bid or levoFLOXacin 500 mg po daily x 10 days beginning 7 days post-chemotherapy should be considered for patients judged to be at high risk of neutropenic fever

In cases of CISplatin toxicity or poorly functioning patients or Age greater than 75:

Drug	Dose	BC Cancer Administration Guidelines
CARBOplatin	AUC 5 DAY 1 only Dose = AUC x (GFR* +25)	IV in 100 to 250 mL NS over 30 minutes.

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

$$\text{GFR} = \frac{\text{N x (140-age in years) x wt (kg)}}{\text{serum creatinine (micromol/L)}} \qquad \text{N = 1.04 (women) or 1.23 (men)}$$

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:** for etoposide

ANC (X 10^9/L)		Platelets (x 10^9/L)	Dose
greater than or equal to 1.5	and	greater than or equal to 100	100%
1.0 to less than 1.5	or	75 to less than 100	75%
less than 1	or	less than 75	**Delay**

2. **Hepatic dysfunction:** for etoposide

Bilirubin (micromol/L)	Dose
less than 25	100%
25 to 50	50%
51 to 85	25%
greater than 85	**Delay**

3. **Renal dysfunction:**

For CISplatin

Calculated Cr Clearance (mL/min)	Dose
greater than or equal to 60	100%
45 to less than 60	80% CISplatin or go to CARBOplatin option (if available)
less than 45	Hold CISplatin or delay with additional IV fluids or go to CARBOplatin option (if available)

For etoposide

Calculated Cr Clearance (mL/min)	Dose
Greater than or equal to 30	100%
Less than 30	75%*

*Initial dose modification to 75% should be considered if creatinine clearance is less than 30 mL/min. Subsequent dosing should be based on patient tolerance and clinical effect.

PRECAUTIONS:

1. **Hypersensitivity:** Monitor infusion of etoposide for the first 15 minutes for signs of hypotension. Hypersensitivity reactions have also been reported for CISplatin. Refer to BC Cancer Hypersensitivity Guidelines.
2. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.
3. **Renal Toxicity**: Nephrotoxicity is common with CISplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycoside antibiotics.

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.

REFERENCES:

Murray N, Coy P, Pater JL, et al. Importance of timing for thoracic irradiation in the combined modality treatment of limited-stage small-cell lung cancer. The National Cancer Institute of Canada Clinical Trials Group. J Clin Oncol 1993; 11: 336-344.