

# BC Cancer Protocol Summary for Treatment of Locally Advanced Non-Small Cell Lung Cancer Using Alternative Dosing of CISplatin and Etoposide with Radiation Therapy

**Protocol Code**

*LULAPE2RT*

**Tumour Group**

*Lung*

**Contact Physician**

*Dr. Christopher Lee*

## ELIGIBILITY:

- Locally advanced non-small cell lung cancer
- ECOG performance status 0 or 1
- Suitable candidate for concurrent chemotherapy and thoracic irradiation (radiation dose at least 60 Gy)

## EXCLUSIONS:

- ECOG performance status 2 or higher
- Weight loss greater than 5% in preceding 3 months

## TESTS:

- Baseline: CBC & differential, platelets, creatinine, alkaline phosphatase, ALT, total bilirubin, LDH
- Before each cycle: CBC & differential, platelets, bilirubin, creatinine
- Before day 8 CISplatin: creatinine
- If clinically indicated: bilirubin

## PREMEDICATIONS:

- Antiemetic protocol for High emetogenic chemotherapy as long as CISplatin dose is equal to 50 mg (see protocol SCNAUSEA).
- hydrocortisone and diphenhydrAMINE for history of hypersensitivity to etoposide

## TREATMENT:

Drug	Dose	BC Cancer Administration Guideline
<b>(Drugs can be given in any sequence)</b>		
CISplatin	50 mg/m <sup>2</sup> /day on Day 1 and Day 8	IV in 500 mL NS with potassium chloride 20 mEq, magnesium sulfate 1 g and mannitol 30 g over 1 hour
etoposide	50 mg/m <sup>2</sup> /day x 5 days (days 1 to 5)	IV in 250 to 500 mL NS over 45 min (use non-DEHP equipment with 0.2 micron in-line filter)

- Usual plan for radiotherapy to start with the first cycle of chemotherapy
- Repeat every 28 days x 2 cycles

- 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:

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

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 <sup>9</sup> /L)		Platelets (x 10 <sup>9</sup> /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 1.0	or	less than 75	<b>Delay</b>

**2. Hepatic dysfunction:** for etoposide

Bilirubin (micromol/L)	Dose	
less than 25	100%	50 mg/m <sup>2</sup> /day x 3 days
25-50	50%	25 mg/m <sup>2</sup> /day x 3 days
51-85	25%	12.5 mg/m <sup>2</sup> /day x 3 days
greater than 85	<b>Delay</b>	

### 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

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. **Extravasation:** etoposide causes irritation if extravasated. Refer to BC Cancer Extravasation Guidelines.
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.

**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:**

1. Albain KS, Swann RS, Rusch VR, et al. Phase III study of concurrent chemotherapy and radiotherapy (CT/RT) vs CT/RT followed by surgical resection for stage IIIA(pN2) non-small cell lung cancer (NSCLC): Outcomes update of North American Intergroup 0139 (RTOG 9309). J Clin Oncol (Meeting Abstracts) 2005;23(16 suppl):7014.
2. Hanna N, Neubauer M, Yiannoutsos C, et al. Phase III study of cisplatin, etoposide, and concurrent chest radiation with or without consolidation docetaxel in patients with inoperable stage III non-small-cell lung cancer: The Hoosier Oncology Group and U.S. Oncology. J Clin Oncol 2008;26(35):5755-60.