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

Protocol Code	*GOSCPERT*
Tumour Group	*Gynecologic Oncology*
Contact Physician	*Dr. Aalok Kumar*

ELIGIBILITY:
- Small cell histology
- ECOG performance status 0-2
- Suitable candidate for radiation therapy (if not, consider surgery in place of radiation therapy)

EXCLUSIONS:
- ECOG performance status 3 or higher
- Disease not radio-encompassable

TESTS:
- Baseline: CBC & Diff, platelets, creatinine, total bilirubin, ALT, alkaline phosphatase
- Before each cycle: CBC & Diff, platelets, creatinine
- If clinically indicated: total bilirubin

PREMEDICATIONS:
- 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 min
etoposide	100 mg/m^2/day x 3 days (days 1 to 3)	IV in 250 to 1000 mL NS over 45 min to 1 hour 30 min (use non-DEHP equipment with 0.2 micron in-line filter)
*if CISplatin dose less than or equal to 60 mg use 100 mL NS, if CISplatin dose greater than 60 mg use 250 mL NS		

- Repeat every 21 days x 4 to 6 cycles
  - May be given every 28 days at physician's discretion

- Usual plan for radiotherapy to start with the second cycle of chemotherapy, although radiotherapy may be started with later cycles dependent on clinical circumstances

Activated: 1 April 2020 Revised: 1 Apr 2024 (Title, premedications, tests, dose modifications, Physician contact phone number updated)

- Usual plan for radiotherapy to include the para-aortic region if positive on PET scan, not in prophylaxis
- Brachytherapy should not be delivered on chemotherapy days, including the 3 days of etoposide

In cases of CISplatin toxicity or poorly functioning patients or age greater than 75 years or severe hearing impairment:

Drug	Dose	BC Cancer Administration Guidelines
CARBOplatin	AUC 5 on 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:

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

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 1.0	or	less than 75	**Delay**

2. **Hepatic dysfunction:** for etoposide

Total bilirubin (micromol/L)	Dose	
less than 25	100%	100 mg/m^2/day x 3 days
25 to 50	50%	50 mg/m^2/day x 3 days
51 to 85	25%	25 mg/m^2/day x 3 days
greater than 85	**Delay**	

3. **Renal dysfunction:**

For CISplatin

Calculated creatinine clearance (mL/minute)	Dose
greater than or equal to 60	100%
45 to less than 60	80% CISplatin or go to CARBOplatin option
less than 45	Hold CISplatin or delay with additional IV fluids or go to CARBOplatin option

For etoposide

Initial dose modification to 75% should be considered if creatinine clearance is less than 30 mL/minute. 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. Aalok Kumar or tumour group delegate at 604-930-2098 or 1-800-523-2885 with any problems or questions regarding this treatment program.

REFERENCES:

1. Zivanovic O, et al. Small cell neuroendocrine carcinoma of the cervix: Analysis of outcome, recurrence pattern and the impact of platinum-based combination chemotherapy. Gynecol Oncol 2009; 112(3):290-3.
2. Gardner GJ, et al. Neuroendocrin tumors of the gynecologic tract: A Society of Gynecologic Oncology (SGO) clinical document. Gynecol Oncol 2011; 122(1):190-8.