BC Cancer Protocol Summary for Combined Chemotherapy CISplatin and Radiation Treatment for Locally Advanced Squamous Cell Carcinoma of the Head and Neck

Protocol Code: *HNLAPRT*

Tumour Group: *Head and Neck*

Contact Physicians: *Dr.Cheryl Ho, Medical Oncology*
Dr. Sarah Hamilton, Radiation Oncology (VCC)
Dr. Christopher Lee, Medical Oncology (FVCC)

ELIGIBILITY:

- Stage III-IV squamous cell carcinoma of the of the head and neck including unknown primary
- T3/T4, N1-N3 p16+ oropharyngeal squamous cell carcinoma
- ECOG performance status 0, 1, 2
- Suitable for radical irradiation
- Patients with nasopharyngeal carcinoma who are able to tolerate the standard option of CISplatin 100 mg/m^2 q3wk, may receive HNLAPRT as an option.

EXCLUSIONS:

- Renal insufficiency, creatinine clearance less than 45 mL/minute
- Contraindication to CISplatin (i.e marked hearing loss, intolerance to fluid load, neuropathy, inadequate blood counts)

RELATIVE CONTRAINDICATIONS:

- Pre-existing motor or sensory neuropathy greater than grade 2

TESTS:

- Baseline: CBC & Diff, creatinine, ALT, alkaline phosphatase, LDH, total bilirubin, sodium, potassium, urea, magnesium, albumin, calcium, phosphate
- Baseline (optional, results do not have to be available to proceed with treatment) HBsAg, HBcoreAb, HBsAb
- Before each cycle: CBC & Diff, creatinine, sodium, potassium, calcium, albumin, magnesium.
- If clinically indicated: total bilirubin, phosphate, ALT, HBV viral load

PREMEDICATIONS:

- Antiemetic protocol for highly emetogenic chemotherapy (see protocol SCNAUSEA).

Activated: 1 Jan 2004 (as HNCMT2) Revised: 1 Oct 2024 (Contact Physician, staging and supportive care deleted, exclusions, premedications, tests, dose modifications, precautions and radiation therapy updated)

TREATMENT:

Chemotherapy:

Drug	Dose	BC Cancer Administration Guideline
CISplatin	100 mg/m^2	IV in NS 1000 mL with mannitol 30 g and potassium chloride 10 mEq over 2 h

- **Every 21 days for up to three cycles**
- **Chemotherapy is only to be administered if concurrent with radiation**

Hydration:

Pre-CISplatin:	D5W-1/2NS 1000 mL with potassium chloride 20 mEq plus magnesium sulphate 2 g over 1 h.
Post-CISplatin:	D5W-1/2NS 1000 mL with potassium chloride 20 mEq plus magnesium sulphate 2 g at 500 mL/h for 2 h.

Alternative hydration for inpatients:

Pre-CISplatin:	D5W-1/2NS 1000 mL with potassium chloride 20 mEq plus magnesium sulphate 2 g IV over 3 h. Prior to beginning **CISplatin**, urine output must be greater than or equal to 300 mL in 3 h. May repeat prehydration x 1000 mL to ensure urine output greater than 300 mL in 3 h. If urine output not adequate after 2000 mL, notify physician.
Post-CISplatin:	D5W-1/2NS with potassium chloride 20 mEq/L plus magnesium sulphate 2 g/L IV at 200 mL/h for 12 h. Measure every 3 h in\output while on IV. If output less than 300 mL during a 3 h period, increase IV to 300 mL/h for 3 h. If urine output still less than 300 mL in a subsequent 3 h period, give **furosemide** 20 mg IV x 1. If output still not adequate, notify physician. May discontinue IV and discharge after post hydration if urine output adequate and patient not vomiting.

Radiation:

- **7,000 cGy in 35 fractions** (treatment daily M- F, no planned interruptions)

DOSE MODIFICATIONS:

1. Hematological:

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 one week

2. Renal dysfunction:

Calculated creatinine clearance (mL/minute)	Dose
Greater than or equal to 60	100%
45 to less than 60	80% CISplatin
Less than 45	Hold CISplatin or delay with additional fluids

3. Gastrointestinal:

Grade	Dysphagia or stomatitis	Dose
0 to 2		100%
3	Requiring [initiation of] feeding tube, IV hydration or hyperalimentation	Delay until improvement and proceed at 75%
4	Complete obstruction (cannot swallow saliva); ulceration with bleeding not induced by minor trauma or abrasion or perforation	Discontinue

Weight loss from baseline	Dose
less than or equal to 10%	100%
greater than 10%	Consider 75% if hyperalimentation instituted, otherwise discontinue (at physician's discretion)

4. **Neuropathy**: Dose modification or discontinuation of CISplatin may be required (see BC Cancer Cancer Drug Manual).

PRECAUTIONS:

1. **Renal Toxicity:** Nephrotoxicity is common with CISplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycosides.
2. **Ototoxicity:** CISplatin is ototoxic and its use must be cautioned in individuals with existing hearing loss.
3. **Neutropenia**: Fever or other evidence of infection must be assessed promptly and treated aggressively.
4. **Hepatitis B Reactivation:** All head and neck cancer patients undergoing chemoradiation should be screened for hepatitis B reactivation risk. Patients with a positive result may require antiviral prophylaxis during treatment and for several months after treatment completion, in addition to close monitoring. Management should be reviewed with an appropriate specialist.

Call Dr. Cheryl Ho or tumour group delegate at (604) 877-6000 or 1-800-663-3333 with any problems or questions regarding this treatment program.

REFERENCES:

1. Forastiere AA, et al. Phase III trial to preserve the larynx: induction chemotherapy and radiotherapy versus concomitant chemoradiotherapy versus radiotherapy alone, Intergroup Trial R91-11. Proc Am Soc Clin Oncol 2001;20:abstr 4.
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4. Cooper JS, et al. Postoperative concurrent radiotherapy and chemotherapy for high-risk squamous-cell carcinoma of the head and neck. N Engl J Med 2004;350(19):1937-44.
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7. Gregoire V, et. al. Proposal for the delineation of the nodal CTV in the node-positive and post-operative neck. Radiother Oncol 2006;79:15-20.