BC Cancer Protocol Summary for Locally Advanced (Alternate) Head and Neck Cancer using CISplatin during Radiation Therapy

Protocol Code:	*HNLAALTPRT*
Tumour Group:	*Head and Neck*
Contact Physician:	*Dr. Cheryl Ho*

ELIGIBILITY:

- locally extensive head and neck cancer, squamous cell or sinonasal undifferentiated carcinoma at diagnosis, any age, ECOG status 0 or 1
- recurrent or metastatic squamous or sinonasal cancer, less than 70 years old (age 70-75 only if very good general condition), ECOG 0-2, good nutritional state
- normal renal function
- adequate marrow function
- no hearing impairment

TESTS:

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

PREMEDICATION:

- Antiemetic protocol for highly emetogenic chemotherapy (see protocol SCNAUSEA).
- Optional: For added hydration, may give D5W-1/2NS 1000 mL of with potassium chloride 20 mEq and magnesium sulfate 2 g over 1 hour on day 2 and/or day 4 with CISplatin.

TREATMENT:

Concurrent with radiation therapy

Drug	Dose	BC Cancer Administration Guidelines
CISplatin	25 mg/m^2/day (Days 1 to 4)	IV in NS 100 to 250 mL over 30 min (use NS 250 mL if greater than 60 mg)

- Radiation is given concurrently with CISplatin.
- For radiation delivered over 5-6 weeks: start day 1 and day 29
- For radiation delivered over 7 weeks: start day 1, day 22 and day 43
- Effort should be made to ensure radiation is given within 1-2 hours AFTER completion of the CISplatin infusion.
- At least one cycle of chemotherapy will be attempted concurrent with radiation therapy.

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 100	100%
If chemotherapy is to be given concurrently with radiation therapy, counts should be as above. If not, these dose reductions below apply.			
greater than or equal to 0.8	and	greater than or equal to 100	100%
less than 0.8	or	less than 100	50% dose reduction

2. Renal dysfunction:

Creatinine clearance (By Cockcroft/Gault formula)	Dose
greater than or equal to 60 mL/minute	100%
45 to 59 mL/minute	50%
less than 45 mL/minute	Delay x 1 week, then reassess

Cockroft/Gault formula:

$$CrCl = \frac{N \times (140\text{-age}) \times \text{weight (kg)}}{\text{Serum Creatinine micromol/L}}$$

Where N = 1.04 for females, and 1.23 for males

3. Neurotoxicity:

- Tinnitus, mild high frequency hearing loss, and delayed peripheral neuropathy may occur secondary to CISplatin. The latter are generally reversible with time, though if the area of the eighth cranial nerve is to be radiated, hearing loss and tinnitus may be permanent. If clinically significant hearing loss or functionally significant peripheral neuropathy occurs, discontinue CISplatin only.

4. GI Toxicity:

Symptom	Grade	Description	Dose
Nausea & Vomiting	4	More than 10 episodes in 24 h or needs parenteral support, dehydration	If not controlled by antiemetics, give 80% dose or stop treatment

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.

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

References

1. Huguenin P, Beer KT, Allal A, et al. Concomitant cisplatin significantly improves locoregional control in advanced head and neck cancers treated with hyperfractionated radiotherapy. J Clin Oncol 2004;22(23):4665-73.
2. Jeremic B, Shibamoto Y, Stanisavljevic B, et al. Radiation therapy alone or with concurrent low-dose daily either cisplatin or carboplatin in locally advanced unresectable squamous cell carcinoma of the head and neck: a prospective randomized trial. Radiother Oncol 1997;43:29-37.
3. Jeremic B, Shibamoto Y, Milicic B, et al. Hyperfractionated radiation therapy with or without concurrent low-dose daily cisplatin in locally advanced squamous cell carcinoma of the head and neck: a prospective randomized trial. J Clin Oncol 2000;18(7):1458-64.
4. Jeremic B, Milicic B, Dagovic A, et al. Radiation therapy with or without concurrent low-dose daily chemotherapy in locally advanced, nonmetastatic squamous cell carcinoma of the head and neck. J Clin Oncol 2004;22(17):3540-8.
5. Blanchard P, Baujat B, Holostenco V, et al. Meta-analysis of chemotherapy in head and neck cancer (MACH-NC): a comprehensive analysis by tumour site. Radiother Oncol 2011;100(1):33-40.