

# BCCA Protocol Summary for induction treatment of locally advanced nasopharyngeal cancer with cisplatin and gemcitabine

**Protocol Code:** HNNLAPG

**Tumour Group:** Head and Neck

**Contact Physician:** Dr. Cheryl Ho

## ELIGIBILITY:

- Locally advanced nasopharyngeal cancer (T3-4, N1-3, M0)
- Disease infiltrating or abutting neurologic structures rendering radiation to radical doses technically difficult
- Suitable for radical radiation
- Adequate hematologic, hepatic and renal function.
- Age greater than or equal to 18 years.
- ECOG performance status 0, 1 or 2.
- Protocol **NOT** to be delivered with concurrent radiotherapy.
- To be followed by HNNLAPRT.
- A “Class II Drug Registration Form” for gemcitabine must be submitted at the time of initiation of treatment. For other indications, an “Individual Use of Benefit Drug List Medication for an Undesignated Indication” form must be approved.

## EXCLUSIONS:

- Contraindications to cisplatin (eg. nephropathy, neuropathy, intolerance to fluid load)

## TESTS:

- Baseline: CBC & differential, platelets, creatinine, liver function tests (including ALT), bilirubin
- If clinically indicated for patients judged to be at risk for hepatitis B baseline: (required, but results do not have to be available to proceed with treatment): HBsAg, anti-HBsAg and anti-HBcAg (=HBcoreAb)
- Before each treatment:
  - Day 1 – CBC & differential, platelets, creatinine, liver function tests (including ALT), bilirubin.
  - Day 8 – CBC & differential, platelets, creatinine.
- If clinically indicated: ALT, HB viral DNA

## PREMEDICATIONS:

Antiemetic protocol for high moderate emetogenic chemotherapy protocols (see protocol SCNAUSEA).

## TREATMENT:

Drug	Dose	BCCA Administration Guideline
<b>(Administer gemcitabine first)</b>		
Gemcitabine	1250 mg/m <sup>2</sup> /day on days 1 and 8 (total dose per cycle = 2500 mg/m <sup>2</sup> )	IV in 250 mL NS over 30 min
Cisplatin	80 mg/m <sup>2</sup> /day on day 1	Prehydrate with 1000 mL NS over 1 hour, then Cisplatin IV in 500 mL NS with 20 mEq KCl, 1 g MgSO <sub>4</sub> , 30 g mannitol over 1 hour

- Repeat every 21 days x 2-3 cycles

**DOSE MODIFICATIONS:****1. Hematology:****For gemcitabine day 1 of each cycle**

ANC (x 10 <sup>9</sup> /L)		Platelets (x 10 <sup>9</sup> /L)	Dose
greater than or equal to 1	and	greater than 100	100%
0.5-0.99	or	75-100	75%
less than 0.5	or	less than 75	<b>Delay*</b>
<b>*Platinum also delayed</b>			

**For gemcitabine day 8 of each cycle**

ANC (x 10 <sup>9</sup> /L)		Platelets (x 10 <sup>9</sup> /L)	Dose**
greater than or equal to 1	and	greater than 100	100%
0.5-0.99	or	75-100	75%
less than 0.5	or	less than 75	<b>Omit</b>
<b>**Dose adjustment only for the day of treatment the CBC is drawn</b>			

**2. Renal Dysfunction:**

Calculated Cr Clearance (mL/min)	Cisplatin dose	Gemcitabine dose
greater than or equal to 60	100%	100%
45-59	80% cisplatin (same prehydration as 80 mg/m <sup>2</sup> dose)	100%
less than 45	Delay cisplatin with additional IV	75%
less than 30	Omit	Omit

3. **Other Toxicities:** for gemcitabine only

Grade	Stomatitis	Diarrhea	Dose
1	Painless ulcers, erythema or mild soreness	Increase of 2-3 stools/day	100%
2	Painful erythema, edema, or ulcers but can eat	Increase of 4-6 stools, or nocturnal stools	Omit until toxicity resolved then resume at 100%
3	Painful erythema, edema, or ulcers and cannot eat	Increase of 7-9 stools/day or incontinence, malabsorption	Omit until toxicity resolved then resume at 75%
4	Mucosal necrosis, requires parenteral support	Increase of greater than or equal to 10 stools/day or grossly bloody diarrhea requiring parenteral IV support	Omit until toxicity resolved then resume at 50%

**PRECAUTIONS:**

1. **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated aggressively.
2. **Renal Toxicity:** Nephrotoxicity is common with cisplatin. Encourage oral hydration. Avoid nephrotoxic drugs such as aminoglycoside antibiotics. Irreversible renal failure associated with hemolytic uremic syndrome may occur (rare) with gemcitabine. Use caution with pre-existing renal dysfunction.
3. **Pulmonary Toxicity:** Acute shortness of breath may occur. Discontinue treatment if drug-induced pneumonitis is suspected.
4. **Hepatitis B Reactivation:** Patients who have elevated ALT levels along with a positive anti-HBcAg may require treatment with lamivudine 100mg orally daily for the entire duration of chemotherapy and for six months afterwards. Such patients should also be monitored with ALT and HB viral DNA levels mid-treatment, week 3 or 4. If the hepatitis B virus DNA level rises during this monitoring, management should be reviewed with an appropriate specialist with experience managing hepatitis and consideration given to halting chemotherapy.

**Call Dr. Cheryl Ho or tumour group delegate at (604) 930-2098 or 1-800-523-2885 with any problems or questions regarding this treatment program.**

Date activated: 1 Jun 2010

Date revised: 1 June 2011 (Infusion section revised)

**References:**

Yau TK, Lee AW, Wong DH, Yeung RM, et al. Induction chemotherapy with cisplatin and gemcitabine followed by accelerated radiotherapy and concurrent cisplatin in patients with stage IV(A-B) nasopharyngeal carcinoma. *Head Neck* 2006;28(10):880-7.