

BCCA Protocol Summary For Modified PCV Chemotherapy Of Brain Tumours Using Procarbazine, Lomustine (CCNU) and Vincristine

Protocol Code

CNMODPCV

Tumour Group

Neuro-oncology

Contact Physician

Dr. Brian Thiessen

ELIGIBILITY:

- First line chemotherapy for patients with anaplastic oligodendroglioma 1p LOH and KPS **greater than** 60
- Adjuvant chemotherapy in patients with primitive neuroectodermal tumour (PNET) and age **greater than** 40
- Recurrent oligodendrogliomas and mixed gliomas not previously exposed to PCV or with a prior good response to PCV (PCV = combination regimen of procarbazine, lomustine, and vincristine)

TESTS:

- Baseline: CBC and diff, platelets, serum creatinine, AST, GGT, bilirubin, serum glucose (for patients on dexamethasone), anticonvulsant levels
- Before each cycle: CBC and diff, platelets, AST, GGT, bilirubin
- Day 22: CBC and diff, platelets
 - CBC and diff, AST, GGT, bilirubin, serum creatinine **before** last cycle.
- Imaging: CT or MR every 2nd cycle

PREMEDICATIONS

- ondansetron PO 8 mg q12h for 36 hours (starting 30 min before lomustine), then prochlorperazine PO or dimenhydrinate PO prn
- dexamethasone PO 8 mg q12h for 36 hours (starting 30 min before lomustine), then prochlorperazine PO or dimenhydrinate PO prn
- if patients are nauseated with procarbazine, may divide procarbazine dose or add regular prochlorperazine

TREATMENT:

Day	Drug	Dose	BCCA Administration Guideline
1	Vincristine	1.4 mg/m ² (see below for maximum cap dose)	in 50 mL NS over 5-15 mins
1	Lomustine (CCNU)	110 mg/m ² at bedtime	PO
2	Procarbazine	60 mg/m ² /day, days 2-15	PO
22	Vincristine	1.4 mg/m ² (see below for maximum cap dose)*	in 50 mL NS over 5-15 mins

- First line chemotherapy for anaplastic oligodendroglioma:
 - Repeat every 6 weeks x **6** cycles
- Adjuvant chemotherapy for primitive neuroectodermal tumour (PNET):
 - Repeat every 6 weeks x **4–6** cycles as tolerated
- Recurrent oligodendrogliomas and mixed gliomas not previously exposed to PCV or with a prior good response to PCV
 - Repeat every 4 weeks x **4-6** cycles based on response and tolerability

*For planned treatment **greater than** 4 cycles, cap vincristine at 2 mg

DOSE MODIFICATIONS:

1. **Hematological:** modify lomustine and procarbazine, not vincristine.

For **Day 1**/Beginning Cycle counts:

ANC (x10 ⁹ /L)		Platelets (x10 ⁹ /L)	Dose (lomustine, procarbazine)
greater than 1.5	and	greater than 100	give 100%
1.0-1.5	and/or	70-100	give 80%
less than 1.0	and/or	less than 70	delay 1 week and resume at 60%

* ANC = WBC X (% polys + % stabs)

For **Day 22** counts

- modify Day 1 dosing for the rest of the treatment.
- If Day 22 counts and Day 1 counts are low, the reduction is based on the lowest of the two counts (i.e., if Day 22 counts dictated a 60% dose reduction and the Day 1 counts dictated a 80% dose reduction, then the dose should be lowered to 60%)

- if dose modification is required for the first treatment cycle, reconsider the program's advisability as severe myelosuppression is common in future cycles.

ANC* (x10 ⁹ /L)		Platelets (x10 ⁹ /L)	Dose (lomustine, procarbazine)
greater than 1.5**	and	greater than 100	give 100%
1.0-1.5	and/or	75-100**	give 80%
less than 1.0	and/or	less than 75**	give 60%

*ANC = WBC X (% polys + % stabs)

**NOTE: Patients with EITHER of these variables should have careful monitoring (at least twice a week) of WBC and platelet counts. ALL patients on dexamethasone should be given prophylactic cotrimoxazole (Septra®). Platelet TRANSFUSIONS for platelet less than 40 x10⁹/L and downward trend. Consult contact physician if any questions.

Consideration for CXR should be made for patients with LOW counts who are on dexamethasone.

2. **Renal dysfunction:** If serum creatinine greater than 150 micromol/L, reconsider treatment program
3. **Hepatic dysfunction:** hold chemo if AST/SGT greater than 5 x ULN or bilirubin greater than 25 micromol/L until liver function returns to normal.
4. **Respiratory:** Review case
5. **Intolerable side effects:** Re-evaluate treatment

PRECAUTIONS:

1. **Peripheral neuropathy:** Numbness and tingling of fingers and toes; distal weakness, foot drop; constipation; jaw pain; mild to moderate nausea/vomiting.
2. **Psycho-neurological complaints:** including drowsiness
3. **Pancytopenia:** often prolonged thrombocytopenia; possible renal damage
4. **Neutropenia:** Fever or other evidence of infection must be assessed promptly and treated aggressively.
5. **Extravasation:** Vincristine causes pain and tissue necrosis if extravasated. Refer to BCCA Extravasation Guidelines.
6. **Hypersensitivity:** Reactions are common with procarbazine. Refer to BCCA Hypersensitivity Guidelines. **Hypersensitive crisis* if taking MAO-like drugs or foods high in tyramine - diet sheet to be given while on procarbazine. Infrequent allergy to procarbazine includes cough.

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

Date activated: 10 Jul 1996

Date revised: 01 May 2009 (unsafe abbreviations and symbols replaced)

