

# BRAIN TUMORS

## GLIOMAS

### IMATINIB MESYLATE & HYDROXYUREA

Hydroxyurea	500 mg	PO	BID continuously
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Imatinib mesylate: chose one of two options:

a) If patient is on an enzyme-inducing anti-epileptic drug (EIAEDs) (e.g., carbamazepine, phenytoin, etc.):

500 mg	PO	BID continuously
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b) If patient is NOT on an EIAED or on a non-enzyme-inducing anti-epileptic drug (NEIAEDs):

400 mg	PO	Daily continuously
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Continue until progression or intolerance.

NOTE: Reserved for recurrent/relapsing tumors. Imatinib mesylate dose taken with food and available as 100 mg capsules, 100 mg tablets, and 400 mg tablets. Hydroxyurea available as 200 mg capsules, 300 mg capsules, 500 mg capsules, and 1000 mg tablets.

References: [Reardon, DA, et al. \*J Clin Oncol\* 2005;23:9359 – 68;](#) [Desjardins, A, et al. \*Proc Am Soc Clin Oncol\* 2006;24:18S:\[Abstract 1573\].](#)

### PCV (PROCARBAZINE – LOMUSTINE – VINCRIStINE) + RADIATION

Radiation (whole brain)	1.8 – 2 Gy/day to a total of 60 Gy		
Hydroxyurea	400 mg QOD	PO	QOD during radiation only

*Within 14 days of completing radiation therapy, patients are to receive the following:*

Lomustine (CCNU)	110 mg/m <sup>2</sup>	PO	Day 1
Procarbazine	60 mg/m <sup>2</sup> /day	PO	Days 8 – 21
Vincristine	1.4 mg/m <sup>2</sup>	IV	Days 8 and 29

NOTE: Lomustine available in the following capsule sizes: 10 mg, 40 mg, and 100 mg capsules.

Repeat cycle every 6 – 8 weeks for 1 year.

Reference: [Levin VA, et al. \*Int J Radiat Oncol Biol Phys\* 1990;18:321 – 4.](#)

## **TEMOZOLOMIDE PLUS RADIATION**

Temozolomide	75 mg/m <sup>2</sup> /day	PO	Daily*
Radiation Therapy	60 Gy in 30 daily fractions of 2 Gy.		

NOTE: Radiation and temozolomide administered concurrently

*After a 4-week break patients received adjuvant temozolomide as follows:*

Temozolomide	150 – 200 mg/m <sup>2</sup> /day**	PO	Days 1 – 5
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\*Starting with the first day of radiation until the last day (up to a maximum of 49 days), including weekends; \*\*The dose for the first cycle is 150 mg/m<sup>2</sup>/dose, and this should be increased to 200 mg/m<sup>2</sup>/dose on the second cycle if there was no hematologic toxicity on cycle 1.

Repeat cycle every 28 days for a maximum of 6 cycles.

NOTE: Patients received PCP prophylaxis while receiving concomitant temozolomide and radiation therapy. Temozolomide is available as 5 mg, 20 mg, 100 mg, and 250 mg capsules. Monitor blood counts closely (i.e., weekly) for the first 10 weeks of concomitant radiation and temozolomide, then monthly thereafter. Approximately 20 – 30% of patients develop thrombocytopenia preventing further treatment. Stop continuous radiation if the platelet count falls below 100 x 10<sup>9</sup>/L (Grossman et. al. Unpublished data).

Reference: [Stupp R, et al. \*N Engl J Med\* 2005;352:987 – 96.](#)

## **TEMOZOLOMIDE**

Temozolomide	150 mg/m <sup>2</sup> /day*	PO	Days 1 – 5
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***OR***

	200 mg/m <sup>2</sup> /day*	PO	Days 1 – 5
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\*Patients who have received prior chemotherapy receive 150 mg/m<sup>2</sup>/day on the first cycle. If there is no Grade 3 or 4 hematological toxicity, subsequent cycles are to be increased to 200 mg/m<sup>2</sup>/dose at the same schedule. If the patient is chemotherapy naïve, the initial dose is 200 mg/m<sup>2</sup>/dose.

Repeat cycle every 28 days for a maximum of 2 years.

NOTE: Patients should receive PCP prophylaxis while receiving concomitant temozolomide and radiation therapy based on recent data. Temozolomide is available as 5 mg, 20 mg, 100 mg, and 250 mg capsules.

Reference: [Yung WK, et al. \*J Clin Oncol\* 1999;17:2762 – 71.](#)

### **TEMOZOLOMIDE (DAILY)**

Temozolomide                      75 mg/m<sup>2</sup>/day              PO                      Daily

Continue until death or tumor progression.

NOTE: Patients should receive PCP prophylaxis while receiving concomitant temozolomide and radiation therapy based on recent data. Temozolomide is available as 5 mg, 20 mg, 100 mg, and 250 mg capsules.

Reference: [Buttolo L, et al. \*Proc Am Soc Clin Oncol\* 2006;24;18S:\[Abstract 1511\]](#).

### **TEMOZOLOMIDE AT RELAPSE (AFTER PREVIOUS TEMOZOLOMIDE THERAPY)**

Temozolomide                      85 mg/m<sup>2</sup>/day              PO                      Days 1 – 21

Repeat cycle every 28 days until progression or intolerance.

NOTE: Reserved for recurrent/relapsing tumors. Patients should receive PCP prophylaxis while receiving concomitant temozolomide and radiation therapy based on recent data. Temozolomide is available as 5 mg, 20 mg, 100 mg, and 250 mg capsules.

Reference: [Berrocal A, et al. \*Proc Am Soc Clin Oncol\* 2006; 24;18S:\[Abstract 1516\]](#).

# BRAIN TUMORS

## MISCELLANEOUS: EPENDYMOMA, MENINGIOMA, MEDULLOBLASTOMA, PNET

### 8 IN 1 (MEDULLOBLASTOMA, PNET, EPENDYMOMA)

Methylprednisolone	300 mg/m <sup>2</sup>	IV	Day 1 at time 0, 6 and 12 hours
Vincristine	1.5 mg/m <sup>2</sup>	IV	Day 1 at hour 0
Lomustine	75 mg/m <sup>2</sup>	PO	Day 1 at hour 0
Procarbazine	75 mg/m <sup>2</sup>	PO	Day 1 at hour 1
Hydroxyurea	1500 mg/m <sup>2</sup>	PO	Day 1 at hour 2
Cisplatin	60 mg/m <sup>2</sup>	IV*	Day 1 at hour 3 – 9
Cytarabine	300 mg/m <sup>2</sup>	IV	Day 1 at hour 9
Cyclophosphamide	300 mg/m <sup>2</sup>	IV	Day 1 at hour 12

\*Administer over 6 hours with routine pre- and post-hydration.

Repeat cycle every 2 to 4 weeks.

Reference: [Pendergrass TW, et al. / Clin Oncol 1987;5:1221 – 31.](#)