



Grey Matters: The Principles of Brain Tumor Management - Chemotherapy

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I have no disclosures



Objective

Name two chemotherapy agents used in the treatment of select brain tumors and explain when they are indicated.

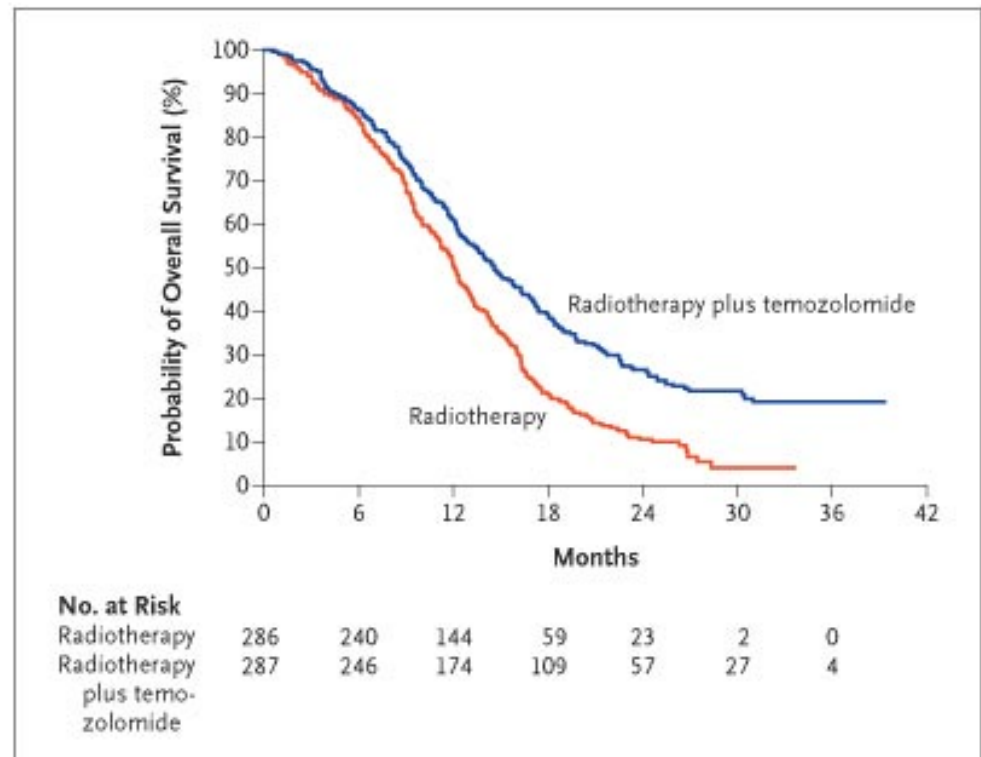
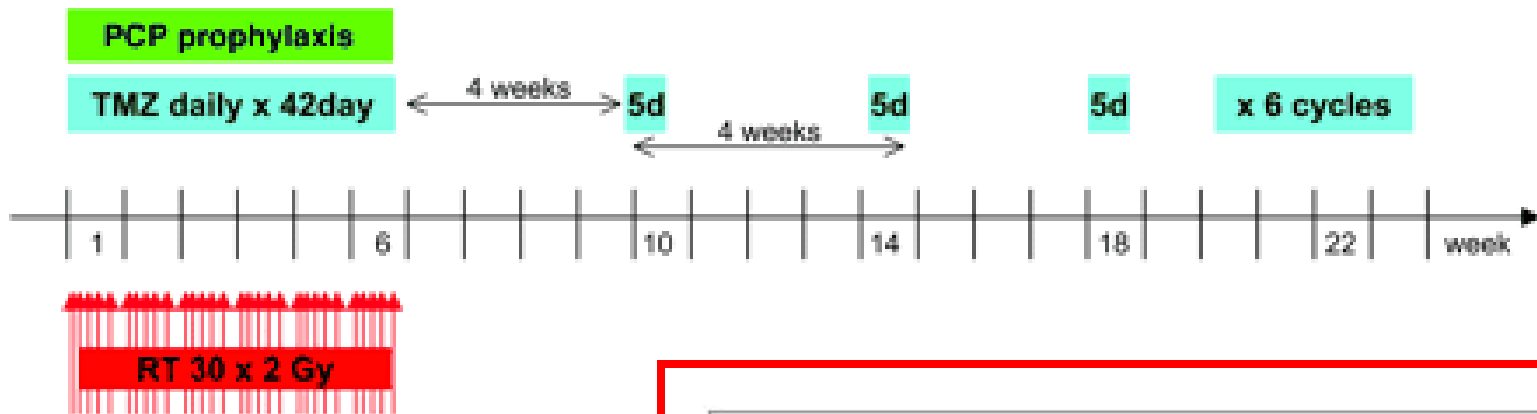


WHO classification

Histologic dx	WHO grade	Name
Astrocytoma	II	Diffuse astrocytoma
	III	Anaplastic Astrocytoma (AA)
	IV	Glioblastoma* (GBM)
Oligodendroglioma	II	Oligodendroglioma (OD)
	III	Anaplastic oligodendroglioma (AO)



Glioblastoma and Chemotherapy-Temozolomide





Glioblastoma-Chemotherapy at progression

Median 6-month PFS at progression is 15%

Repeat surgery and radiation can be considered in select cases

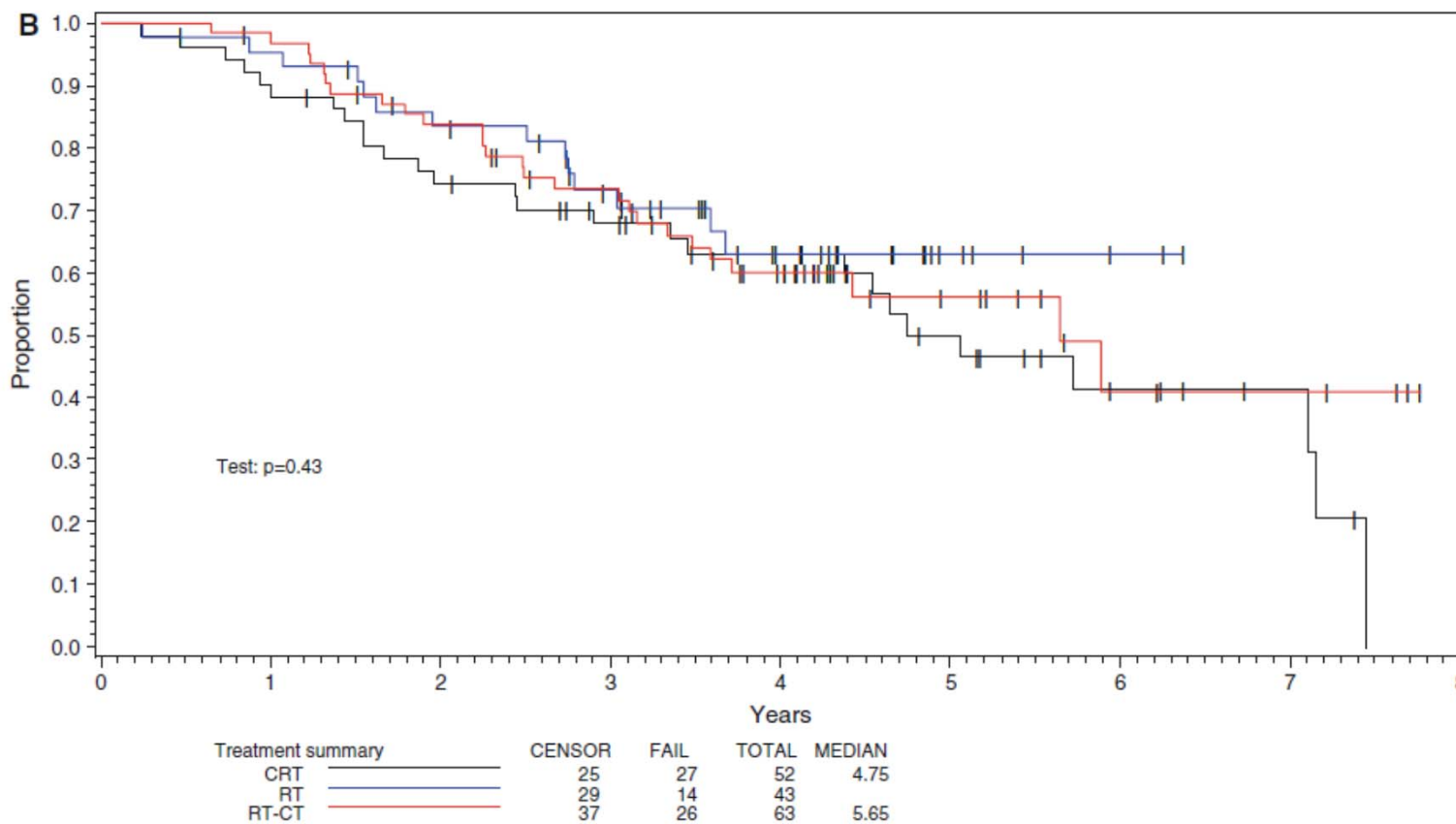
NCCN guidelines:

- Recurrence/Salvage therapy
 - Bevacizumab^{†, 31-33}
 - Bevacizumab + chemotherapy^{††}
(irinotecan,³²⁻³⁴ carmustine/lomustine,²¹ temozolomide, carboplatin [category 2B for carboplatin]^{22,23})
 - Temozolomide^{4,12,35}
 - Lomustine or carmustine¹⁵
 - Combination PCV
 - Cyclophosphamide (category 2B)²⁶
 - Platinum-based regimens^α



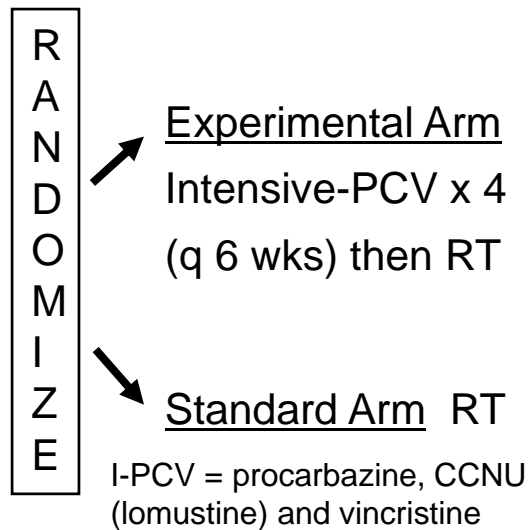
Anaplastic Astrocytoma-?Chemotherapy

Chemoradiation (CT+RT) vs RT alone vs sequential RT-CT

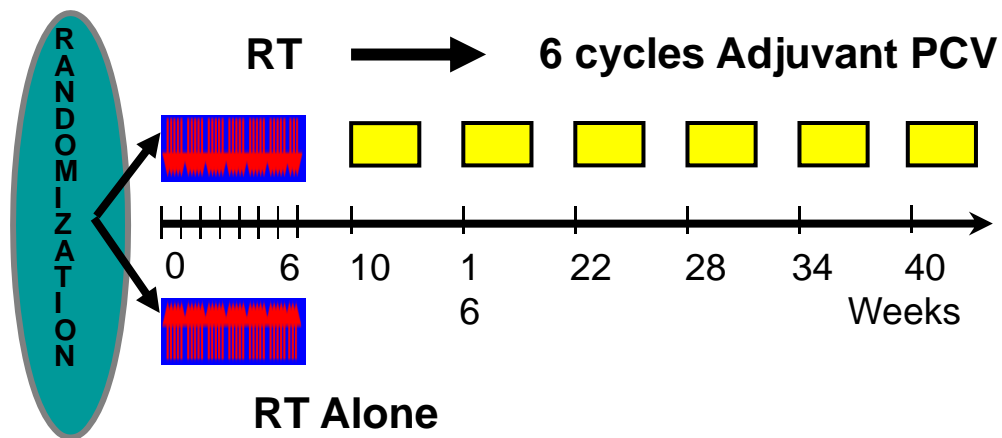




Anaplastic Oligodendroglial Tumors



RTOG 9402



EORTC 26951

J Clin Oncol 2006 Jun 20;24(18):2715-22

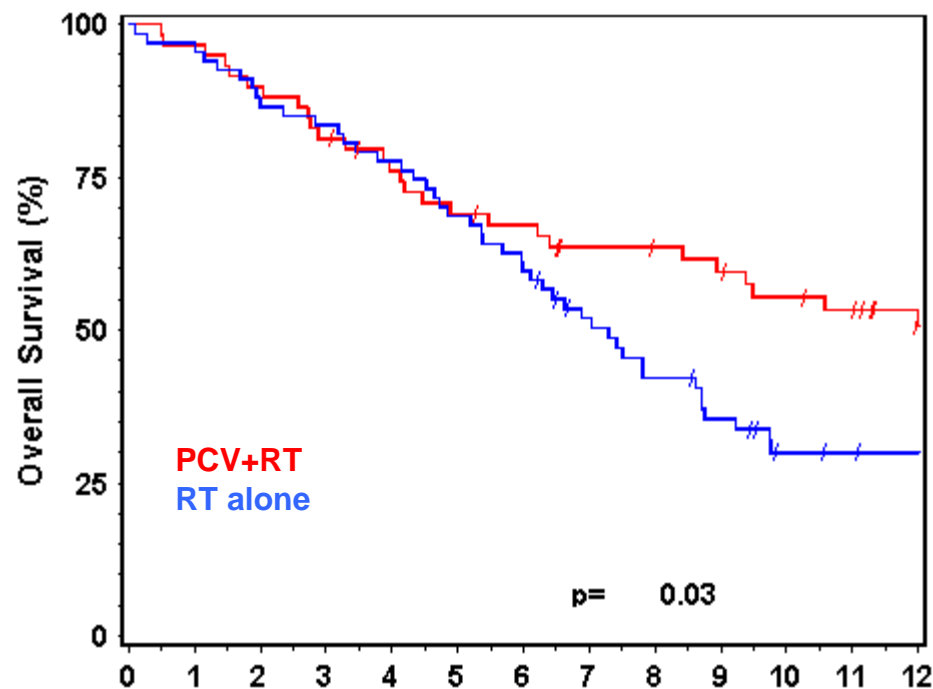
J Clin Oncol 2006 Jun 20;24(18):2707-14

Slide courtesy of M. Gilbert

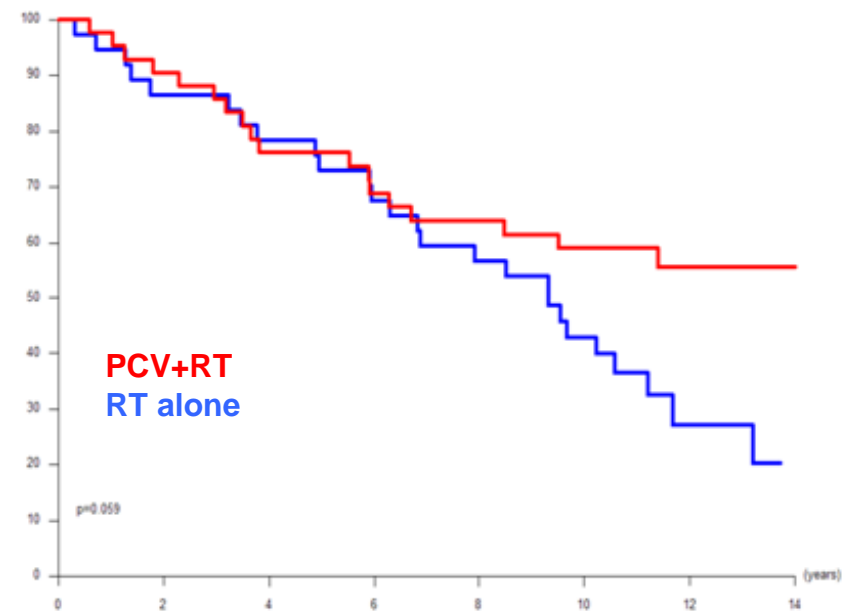


Anaplastic Oligodendroglial Tumors

OS for Patients with Codeleted Pure and Mixed Anaplastic Oligodendrogliomas 2012



RTOG 94-02



EORTC 26951



Anaplastic Oligodendroglial Tumors

- What is the optimal regimen for codeleted AOTs?
 - PCV or temozolomide
 - Pre-radiation, post-radiation, or concurrent with radiation followed by adjuvant?
 - Chemotherapy alone with radiation delay?
 - CODEL trial
- What is the optimal regimen for intact AOTs?
- RTOG 9402 and EORTC 26951 showed some intact patients benefitted from RT+CT

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ORIGINAL REPORT

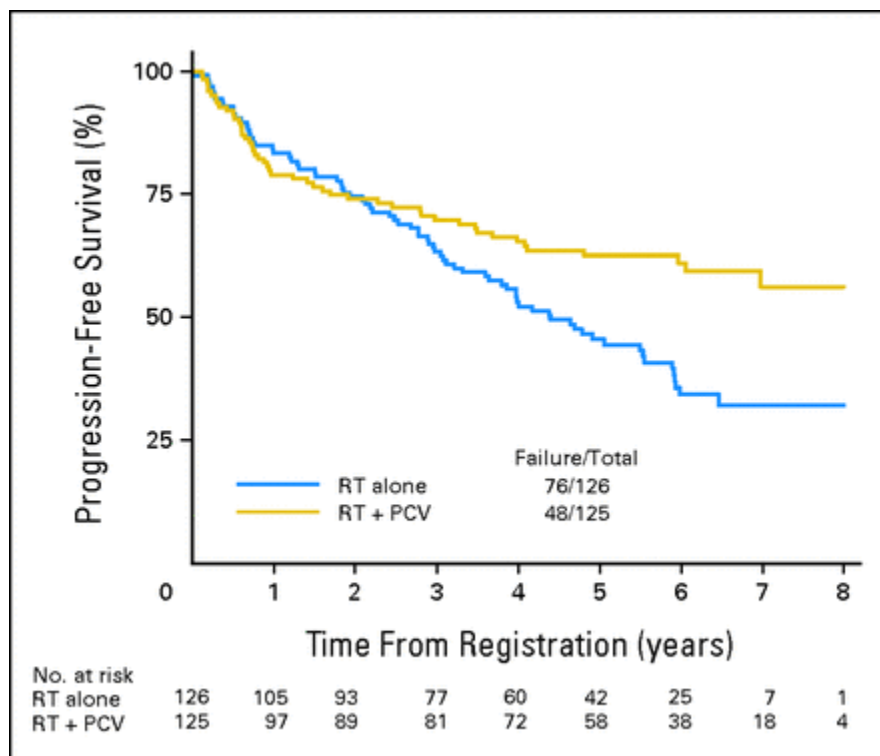
Benefit From Procarbazine, Lomustine, and Vincristine in
Oligodendroglial Tumors Is Associated With Mutation
of *IDH*

- 5.5 vs 3.3 years

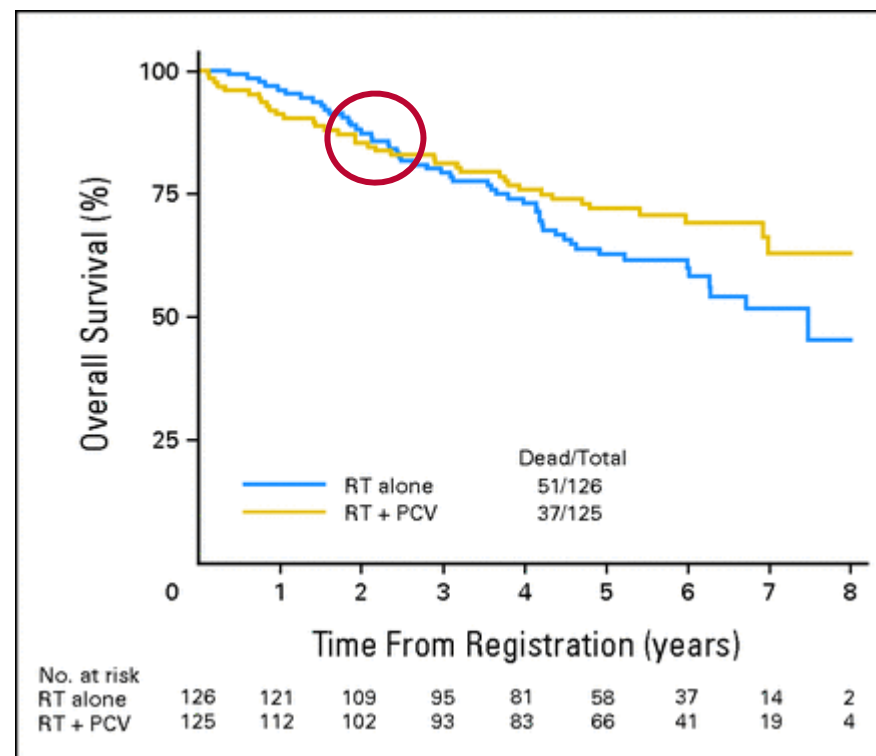


Grade II (Low grade) Glioma

RTOG 9802 RT vs RT+PCV



PFS time/5-yr rate
RT 4.4 yr/46%
RT + PCV NR/63%



OS/rate 5-yr
RT 7.5 yr/63%
RT + PCV NR/72%



Grade II (Low grade) Glioma

RTOG 9802 with median f/u 12 years

Posted: 02/03/2014

NCI Press Release

**Adding chemotherapy following radiation treatment improves survival
for adults with a slow-growing type of brain tumor**

OS 13.3 years vs 7.8 years



University of Nebraska Medical Center

Thank you!



www.nebraskamed.com/brainandspinecancercenter

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