

Supplementary Material

Clinical and molecular characteristics of gliosarcoma and modern prognostic significance relative to conventional glioblastoma (*J. Neurooncol.* 2017)

Authors: Deborah R. Smith, Cheng-Chia Wu, Heva J. Saadatmand, Steven R. Isaacson, Simon K. Cheng, Michael B. Sisti, Jeffrey N. Bruce, Sameer A. Sheth, Andrew B. Lassman, Fabio M. Iwamoto, Shih-Hsiu Wang, Peter Canoll, Guy M. McKhann 2nd and Tony J. C. Wang

Corresponding author: Dr. Tony J.C. Wang, Department of Radiation Oncology, Columbia University Medical Center, New York, NY, 10032, USA. Electronic address: tjw2117@cumc.columbia.edu.

Supplementary Table 1 | Univariate and Multivariate Cox Regression Analysis of Overall Survival Among Primary Gliosarcomas

Factors	Univariate Analysis: Primary GSM Overall Survival		Multivariate Analysis: Primary GSM Overall Survival	
	Hazard Ratio (95% CI)	P-value	Hazard Ratio (95% CI)	P-value
Demographics				
Age at Diagnosis	1.003 (0.964-1.043)	0.885		
KPS (Karnofsky Performance Status)	0.952 (0.853-1.062)	0.377		
RTOG RPA Class		0.230		0.675
III	-		-	
IV	Reference		Reference	
V/VI	5.477 (0.342-87.820)		2.508 (0.034-185.2)	
Gender		0.798		
Female	Reference			
Male	1.128 (0.447-2.847)			
Ethnicity		0.697		
Caucasian	Reference			
Hispanic	0.773 (0.211-2.833)			
African-American	-			
Asian	-			
Treatment Characteristics				
Surgical EoR		0.025		
Gross total resection	Reference		Reference	0.741
Near-total resection/ Subtotal resection	3.574 (1.177-10.851)		1.601 (0.098-26.213)	
Biopsy	-			
Adjuvant Radiotherapy		0.259		
No	Reference			
Yes	0.479 (0.133-1.721)			
RT Dose, Gy		0.253		0.808
59.4-60 Gy	Reference		Reference	
<59.4 Gy	2.609 (0.504-13.518)		1.414 (0.086-23.123)	
Temozolomide				
Yes	0.630 (0.232-1.713)	0.366		
No	Reference			
Reresection				
Yes	0.999 (0.388-2.570)	0.998		
No	Reference			

Supplementary Table 2 | Comparison of Baseline Patient Characteristics for Primary Gliosarcoma and Glioblastoma

Patient Characteristics	Primary Glioblastoma	Primary Gliosarcoma	P-value
Baseline Demographics	451 patients	22 patients	
Median Age, years (range)	60.0 (18-91)	62 (33-77)	0.630
<50	22.6%	27.3%	
≥50-≤70	42.1%	31.8%	
<70	35.3%	40.9%	
Median KPS (range)	80% (30-100%)	80% (60-90%)	
RTOG RPA Class			0.364
III	10.0%	-	
IV	60.0%	85.7%	
V/VI	29.9%	14.3%	
Gender			0.380
Male	57.2%	68.2%	
Female	42.6%	31.8%	
Ethnicity			0.740
Caucasian	74.3%	83.3%	
Hispanic	15.9%	16.7%	
African-American	3.7%	-	
Asian	1.4%	-	
Treatment Characteristics			
Extent of Resection			0.089
Cytoreductive (GTR/NTR/STR)	88.0%	100%	
Stereotactic biopsy	12.0%	-	
Adjuvant Radiotherapy			0.008
Yes	94.7%	77.3%	
No	5.3%	22.7%	
Median RT Dose, Gy (IQR)	60 (59.4-60)	59.4 (40.5-60)	0.072
59.4-60 Gy	81.4%	55.6%	
<59.4 Gy	18.6%	44.4%	
Temozolomide			0.661
Yes	57.0%	63.6%	
No	43.0%	36.4%	

Supplementary Table 3 | Comparison of Baseline Patient Characteristics for Primary Gliosarcoma and Glioblastoma Among Patients who Received Temozolomide-Based Chemoradiotherapy

Patient Characteristics	Primary Glioblastoma	Primary Gliosarcoma	P-value
Baseline Demographics	451 patients	14 patients	
Median Age, years (range)	60.0 (18-90)	59.5 (40-72)	0.657
<50	19.9%	28.6%	
≥50-≤70	46.5%	35.7%	
<70	33.6%	35.7%	
Median KPS (range)	80% (30-100%)	80% (60-90%)	
RTOG RPA Class			0.752
III	7.1%	-	
IV	66.4%	80.0%	
V/VI	26.5%	20.0%	
Gender			0.409
Male	57.8%	71.4%	
Female	42.2%	28.6%	
Ethnicity			0.873
Caucasian	72.1%	81.8%	
Hispanic	17.9%	18.2%	
African-American	4.8%	-	
Asian	4.4%	-	
Treatment Characteristics			
Extent of Resection			0.611
Cytoreductive (GTR/NTR/STR)	88.0%	100.0%	
Stereotactic biopsy	12.0%	-	
Median RT Dose, Gy (IQR)	60 (60-60)	52.5 (40.05-60)	0.043
59.4-60 Gy	82.3%	50%	
<59.4 Gy	17.7%	50%	