

Figure S1. Kaplan-Meier analysis of correlation between DFI and the clinicopathological parameters and markers. (A) age, (B) tumor grade, (C) positive expression of CCL2 and (D) positive expression of CCR2. DFI, disease-free interval; Cum, cumulative survival; C-C motif chemokine ligand; CCR, C-C motif receptor.

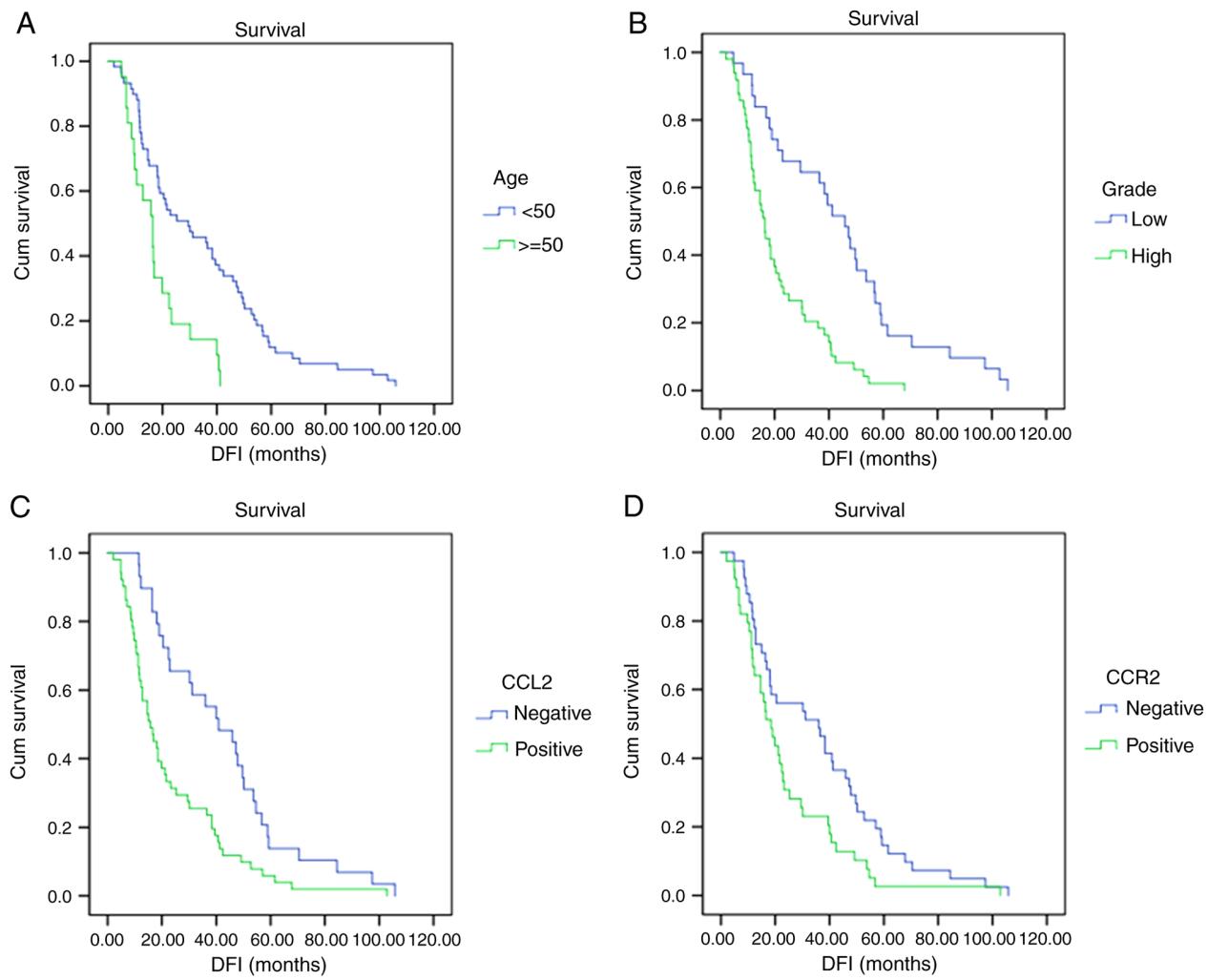


Figure S2. Kaplan-Meier analysis of correlation between OS and the clinicopathological parameters and markers. (A) age, (B) tumor grade, (C) positive expression of CCL2 and (D) positive expression of CCR2. OS overall survival; Cum, cumulative survival; C-C motif chemokine ligand; CCR, C-C motif receptor.

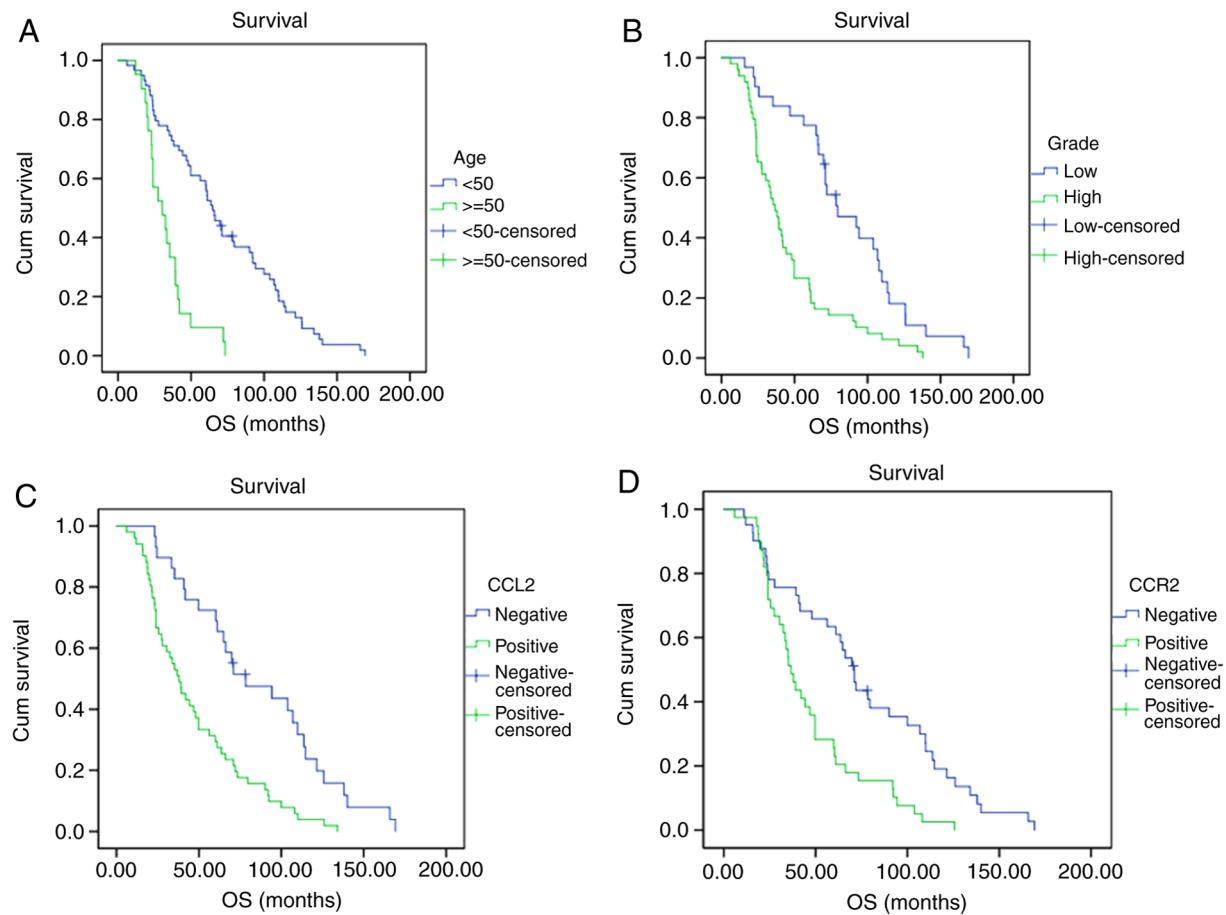


Table SI. Baseline characteristics of 80 patients with astrocytoma.

Characteristics	Primary tumor	Recurrent tumor
Mean age (range), years	42.90 (9-77)	45.41 (10-79)
Sex, n (%)		
Male	43 (53.75)	
Female	37 (46.25)	
Radiotherapy, n (%)		
Yes	51 (63.75)	
No	29 (36.25)	
Histological grade, n (%)		
I	7 (8.75)	2 (2.50)
II	24 (30.00)	9 (11.25)
III	16 (20.00)	16 (20.00)
IV	33 (41.25)	53 (66.25)
Location of tumor, n (%)		
Frontal lobe	44 (55.00)	46 (57.50)
Temporal lobe	17 (21.25)	17 (21.25)
Parietal lobe	8 (10.00)	4 (5.00)
Occipital lobe	4 (5.00)	5 (6.25)
Others	7 (8.75)	8 (10.00)
Disease free interval, mean months (range)		30.16 (2.10-105.80)
Over survival, mean months (range)		60.19 (6.00-169.20)

Table SII. Clinical characteristics of the control group.

Characteristics	Value
Mean age ± SD, years	49.63±11.24
Sex, n (%)	
Male	6 (60)
Female	4 (40)

Table SIII. Correlation between tumor grade and CCL2/CCR2.

	Primary tumor		Recurrent tumor	
	r	P-value	r	P-value
Grade/CCL2	0.308	0.006	0.442	4.014×10^{-5}
Grade/CCR2	0.262	0.019	0.422	9.763×10^{-5}

r, Spearman's correlation analysis. CCL, C-C motif ligand; CCR, C-C motif receptor.

Table SIV. Prognostic values of the clinicopathological parameters and markers.

Characteristics	KM P-value	OS			Cox	
		Relation		HR	95% CI	P-value
		r	P-value			
Age, years	1.647x10 ⁻⁶	-0.416	1.218x10 ⁻⁴	2.339	1.291-4.238	0.005
<50						
≥50						
Sex	0.656					
Male						
Female						
Radiotherapy	0.256					
Yes						
No						
Grade	4.703x10 ⁻⁵	-0.474	8.982x10 ⁻⁶	1.761	1.023-3.031	0.041
I -II						
III-IV						
Location	0.630					
Frontal						
Temporal						
Parietal						
Occipital						
Others						
CCL2	7.747x10 ⁻⁵	-0.427	7.887x10 ⁻⁵	1.879	1.092-3.236	0.023
Negative						
Positive						
CCR2	3.540x10 ⁻⁴	-0.310	0.005	1.744	1.033-2.945	0.037
Negative						
Positive						

KM, Kaplan-Meier; HR, hazard ratio; CI, confidence interval; CCL, C-C motif ligand; CCR, C-C motif receptor.