

ERG expression before and after bevacizumab therapy

Supplementary Table 1. Naïve-refractory Bev group

Case	Age	Sex	Location	PFS (days)	OS (days)	Refractory sample	Initial surgery		Refractory sample	
							Vessel density	ERG score	Vessel density	ERG score
1	65	M	Rt. Parietal	224	957	Salvage surgery	65.2	45	43	45
2	48	F	Rt. Frontal	224	911	Salvage surgery	52.8	39	25.4	42
3	50	F	Lt. Frontal	132	571	Salvage surgery	41.6	45	87	30
4	52	F	Lt. Temporal	195	2464	Autopsy	210	45	73.2	11
5	73	M	Lt. Temporal	287	554	Autopsy	137.4	45	81.6	2
6	52	M	Lt. Temporal	294	699	Autopsy	323.6	42	70.6	0
7	41	M	Cerebellar	433	1239	Salvage surgery	23.8	45	42.6	33
8	56	M	Lt. Temporal	140	932	Salvage surgery	162.2	33	50.4	29
9	65	F	Rt. Parietal	308	506	Autopsy	144.8	29	74.6	5
10	54	M	Lt. Temporal	189	329	Autopsy	207.2	42	67.2	0
11	51	M	Lt. Parietal	196	439	Autopsy	94.4	42	83.4	3
12	64	M	Rt. Temporal	120	384	Autopsy	184.8	39	176.2	0
13	68	M	Rt. Frontal	179	610	Salvage surgery	166	30	29.8	45

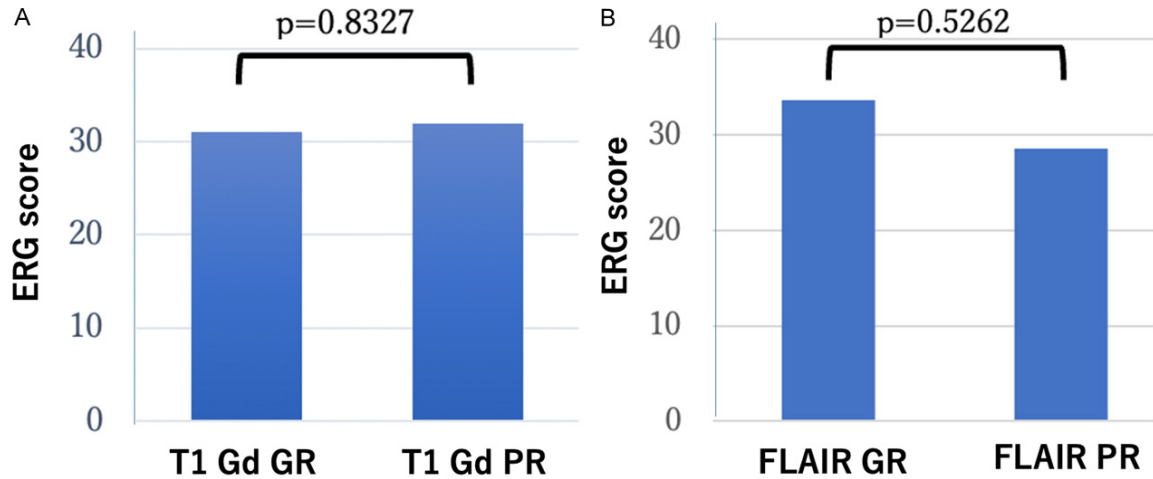
Recurrent pattern on MRI, PFS, and OS are listed. Vessel density (CD34-positive number/HPF) and ERG scores as assessed by immunohistochemistry are compared between initial surgery and recurrence at salvage surgery or autopsy. ERG, erythroblast transformation specific-1 related gene; F, female; FLAIR, fluid-attenuated inversion recovery; HPF, high power field; Lt, left; M, men; OS, overall survival after initial therapy; PFS, progression-free survival after initial therapy; Rt, right.

Supplementary Table 2. Effective-refractory Bev group

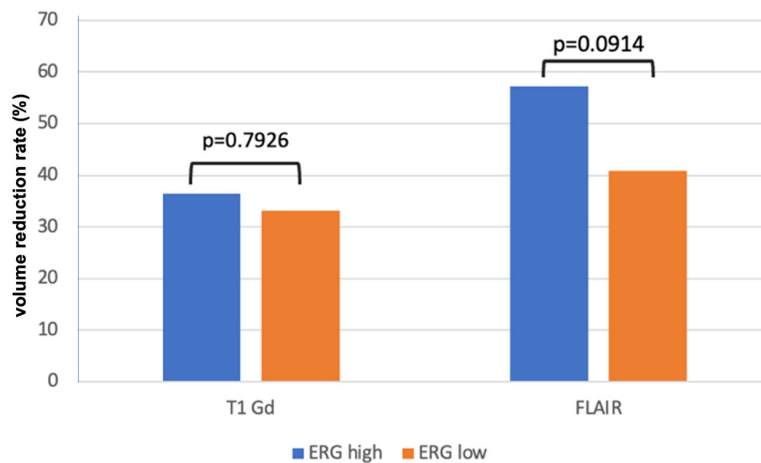
Case	Age	Sex	Location	Response rate to neoBev.		PFS (days)	OS (days)	Refractory sample	Initial surgery		Refractory sample	
				T1 Gd. (%)	FLAIR (%)				Vessel density	ERG score	Vessel density	ERG score
1	77	F	Lt. Parietal	-14	-33	258	400	Salvage surgery	28.6	42	49.4	30
2	55	M	Rt. Frontal	-61	-27	636	835	Autopsy	86.4	16	48.2	18
3	68	M	Rt. Occipital	-38	-26	309	493	Autopsy	178.8	30	47.8	0
4	50	M	Rt. Temporal	-26	-54	301	435	Autopsy	75.4	39	148	12
5	78	M	Rt. Frontal	-66	-71	295	495	Autopsy	130	36	70.6	6
6	76	M	Rt. Frontal	-15	-60	161	312	Autopsy	40.4	36	48.6	5
7	63	M	Lt. Temporal	-56	-63	207	483	Salvage surgery	116	45	106.2	27
8	70	M	Lt. Temporal	-42	-64	212	376	Autopsy	98.2	36	46.8	6
9	68	F	Lt. Frontal, basal	-42	-33	509	579	Autopsy	108.6	18	56.4	3
10	70	M	Lt. Temporal	-35	-64	184	225	Autopsy	61	24	71.8	29
11	80	M	Rt. Frontal	-18	-63	156	280	Autopsy	42.6	9	92	18
12	53	M	Lt. Parietal	30	-24	274	613	Salvage surgery	110.8	27	33	37
13	69	M	Rt. Temporal	-58	-38	284	1047	Salvage surgery	77.6	45	47.6	24
14	51	F	Lt. Occipital	-14	-75	188	295	Salvage surgery	53.8	45	53	19
15	65	F	Lt. Frontal	-33	-64	342	647	Salvage surgery	99.8	33	61.8	7
16	78	M	Rt. Temporal	-68	-25	259	344	Salvage surgery	30.2	22	24.6	42

Recurrent pattern on MRI, PFS, and OS are listed. Vessel density (CD34-positive number/HPF) and ERG scores as assessed by immunohistochemistry are compared between initial surgery and recurrence at salvage surgery or autopsy. ERG, erythroblast transformation specific-1 related gene; F, female; FLAIR, fluid-attenuated inversion recovery; HPF, high power field; Lt, left; M, men; neoBev, neoadjuvant bevacizumab; OS, overall survival after initial therapy; PFS, progression-free survival after initial therapy; Rt, right.

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Supplementary Figure 1. ERG score stratified by response rate on T1-weighted imaging with gadolinium enhancement (T1 Gd) and fluid-attenuated inversion recovery (FLAIR) in neobev. Y axis shows ERG score. A. T1 Gd good responders (T1 Gd GR) and poor responders (T1 Gd PR) are defined as showing response rates of $>35\%$ and $\leq 35\%$, respectively. Mann-Whitney U test, $P=0.8327$. B. FLAIR good responders (FLAIR GR) and poor responders (FLAIR PR) are defined as showing response rates of $>49\%$ and $\leq 49\%$, respectively. Mann-Whitney U test, $P=0.5262$.



Supplementary Figure 2. Comparison of response rates on T1 Gd and FLAIR images after neoBev between high and low ERG score, defined as >36 and ≤ 36 , respectively. Y axis shows the volume reduction rate on imaging. Mann-Whitney U test, $P=0.7926$ and $P=0.0914$ for response rates on T1 Gd and FLAIR, respectively.