

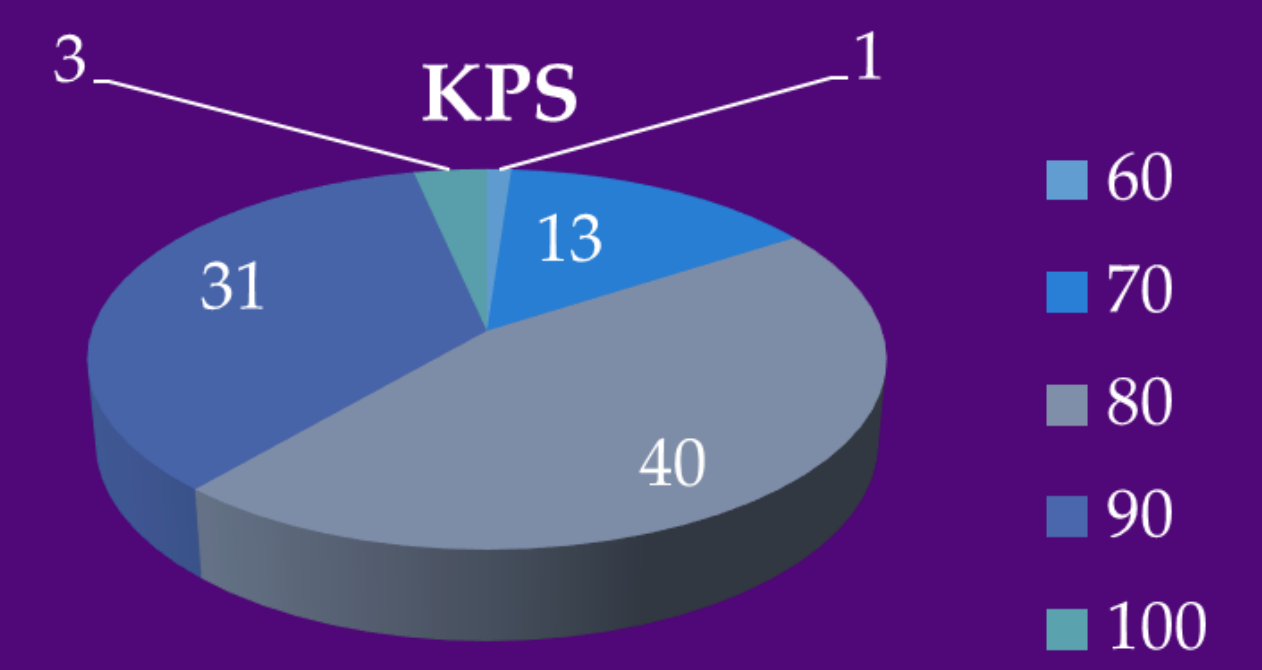
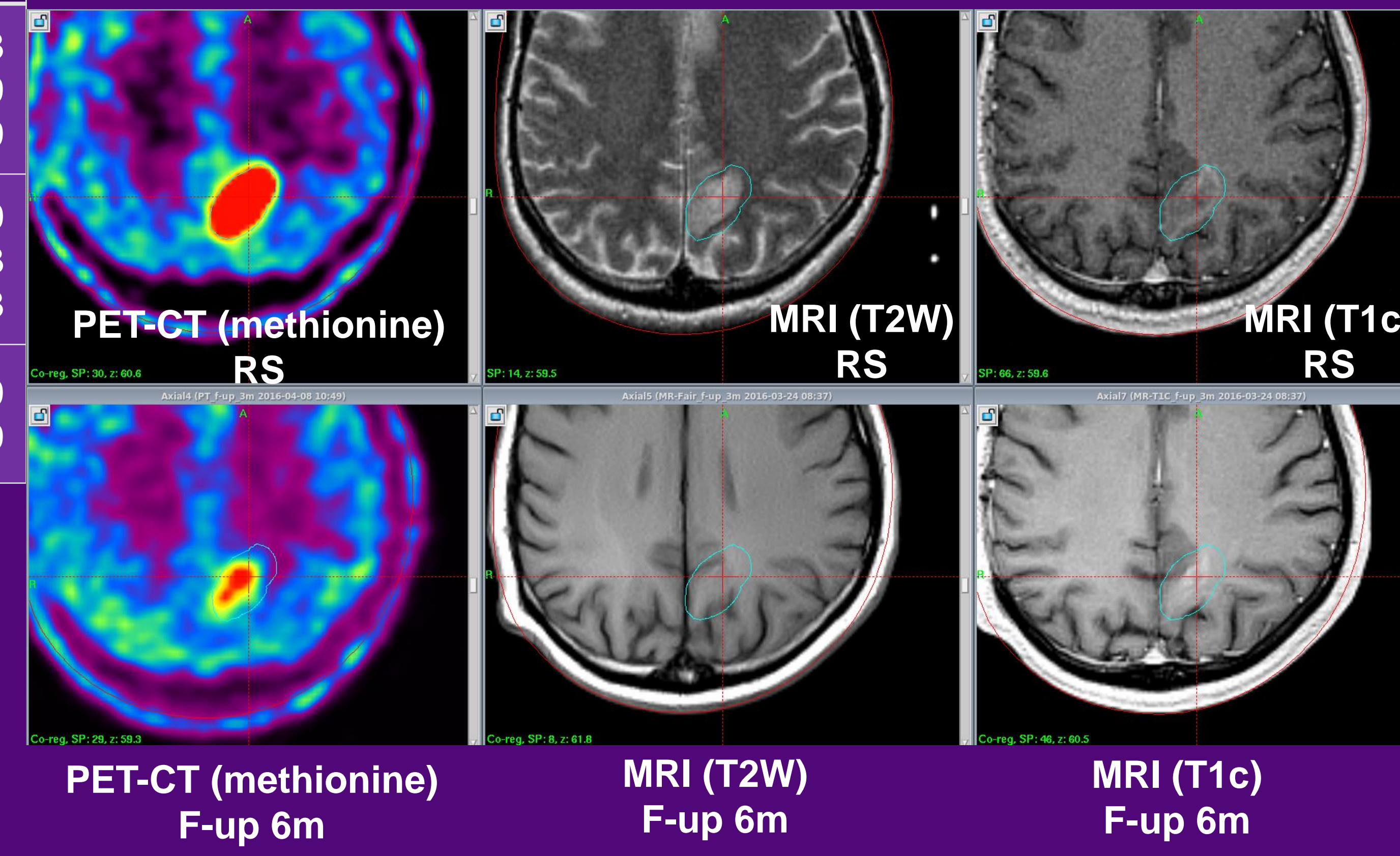


RADIOSURGICAL TREATMENT GLIOBLASTOMA RECURRENCES

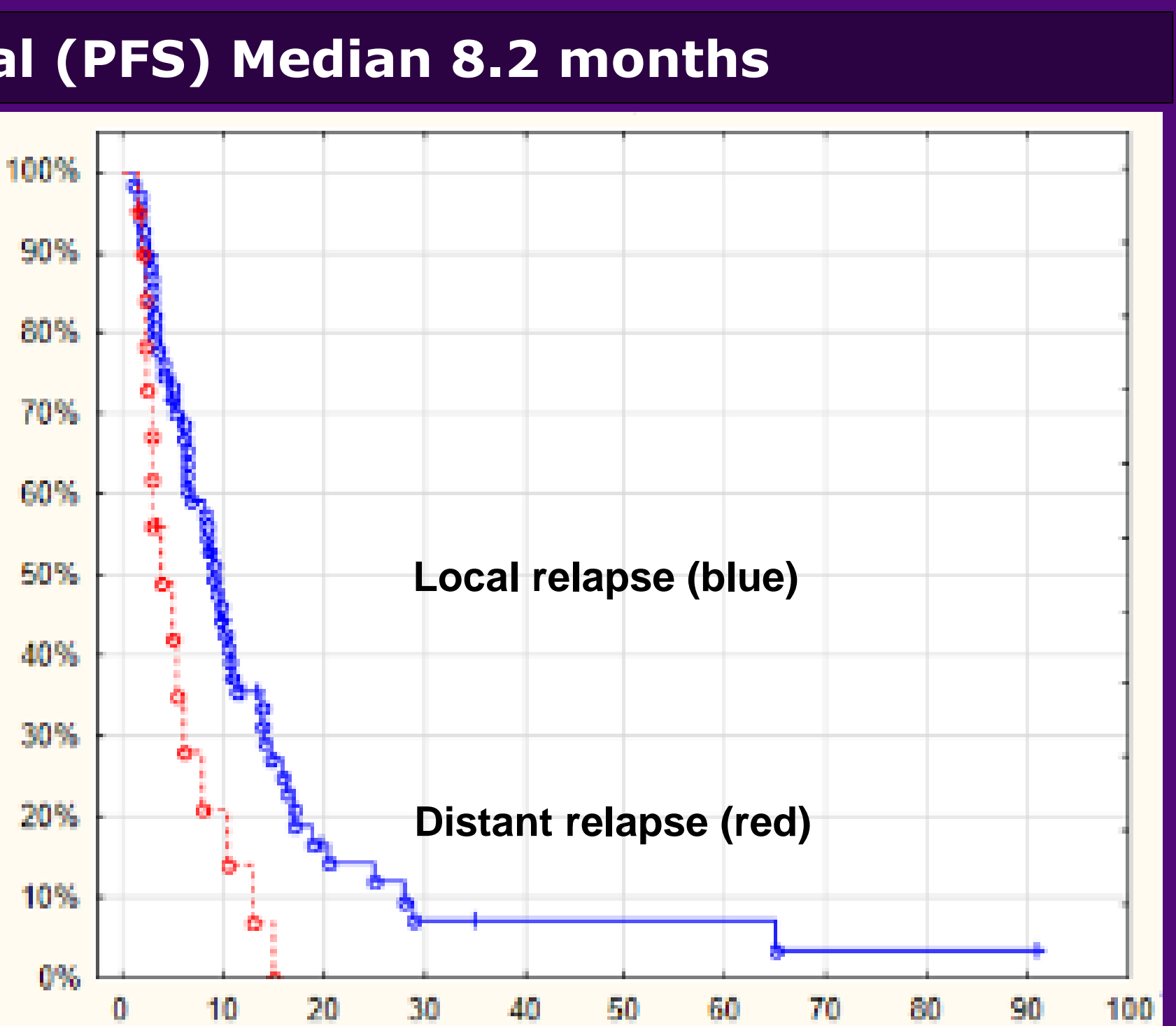
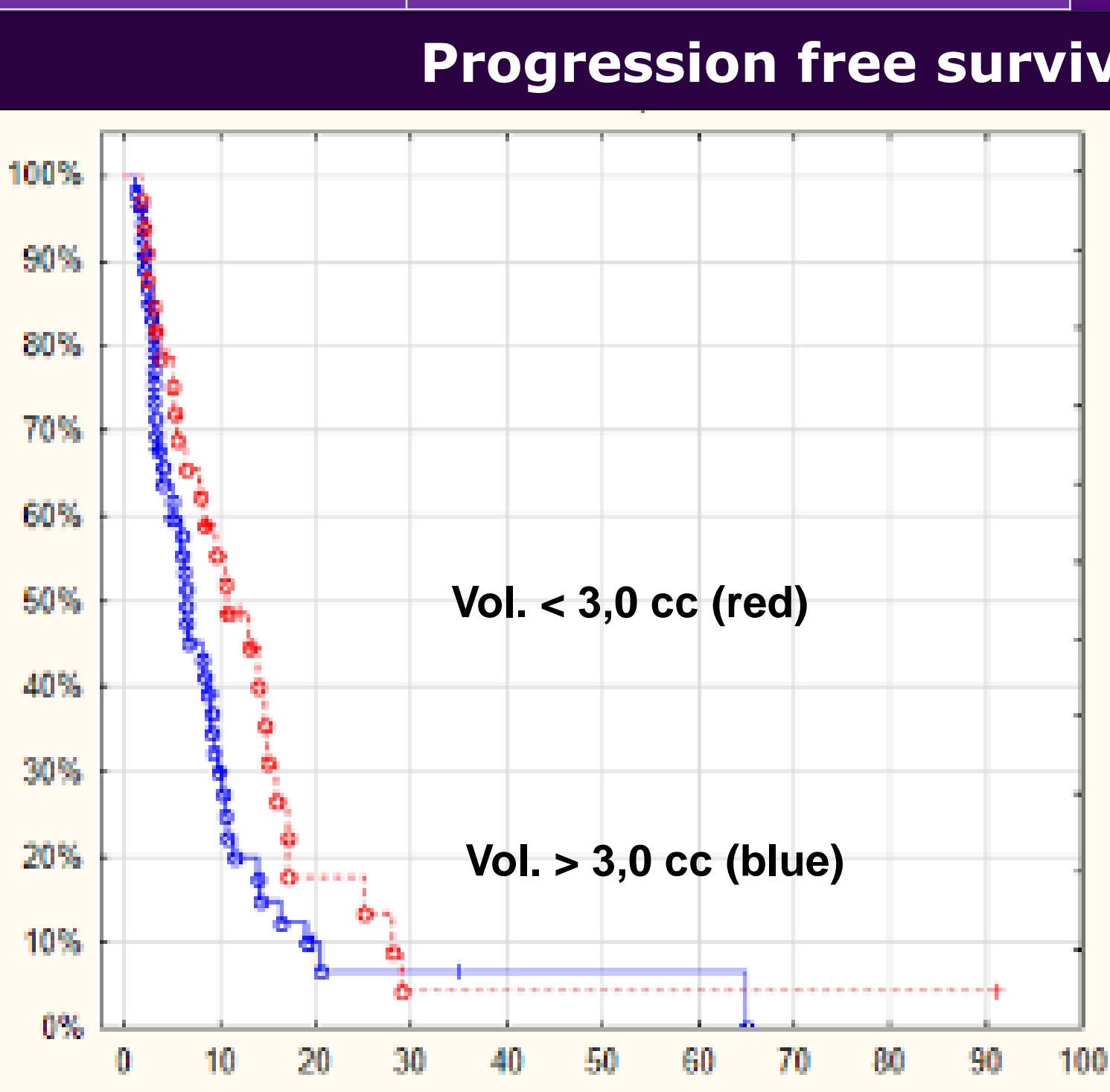
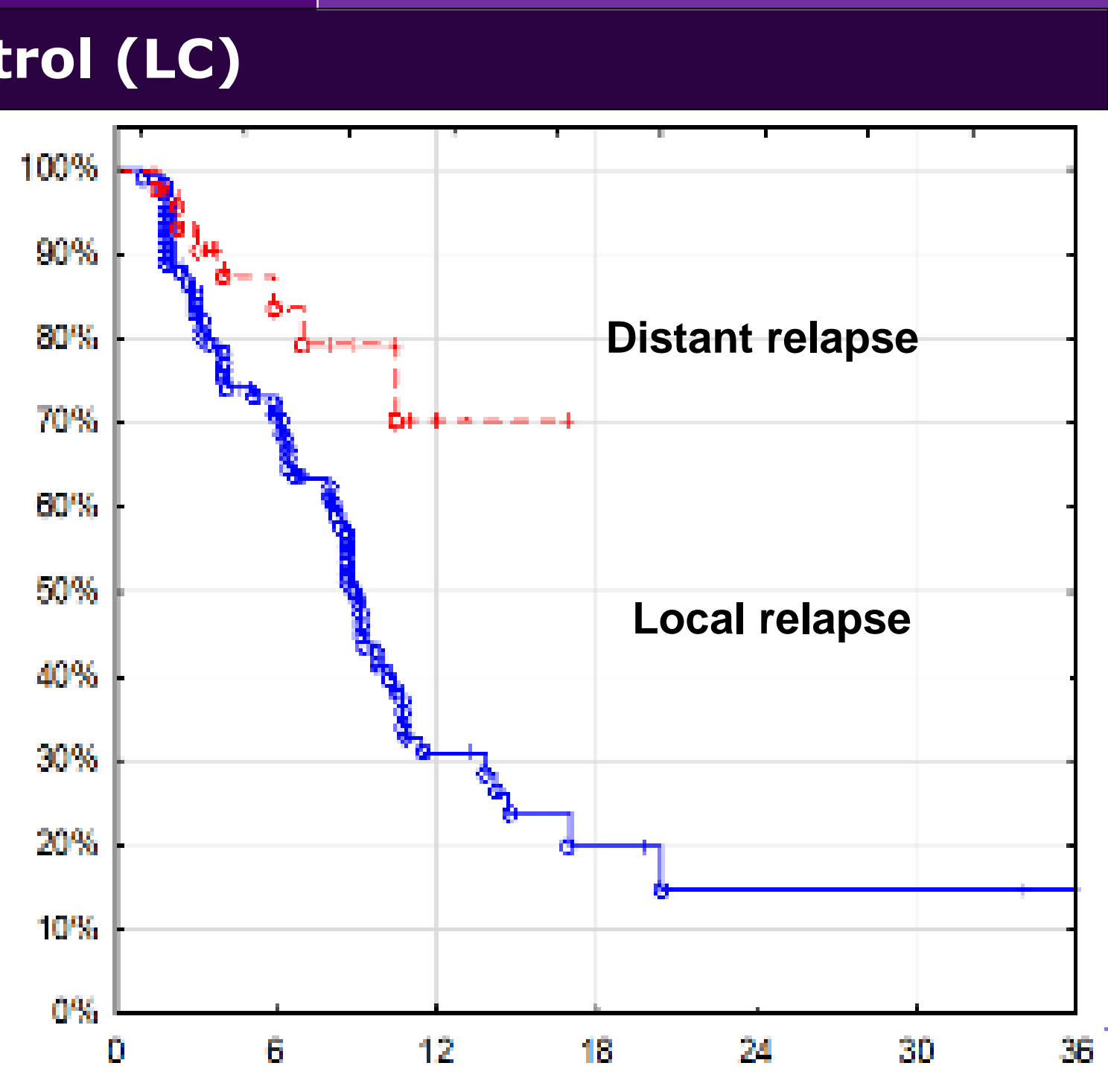
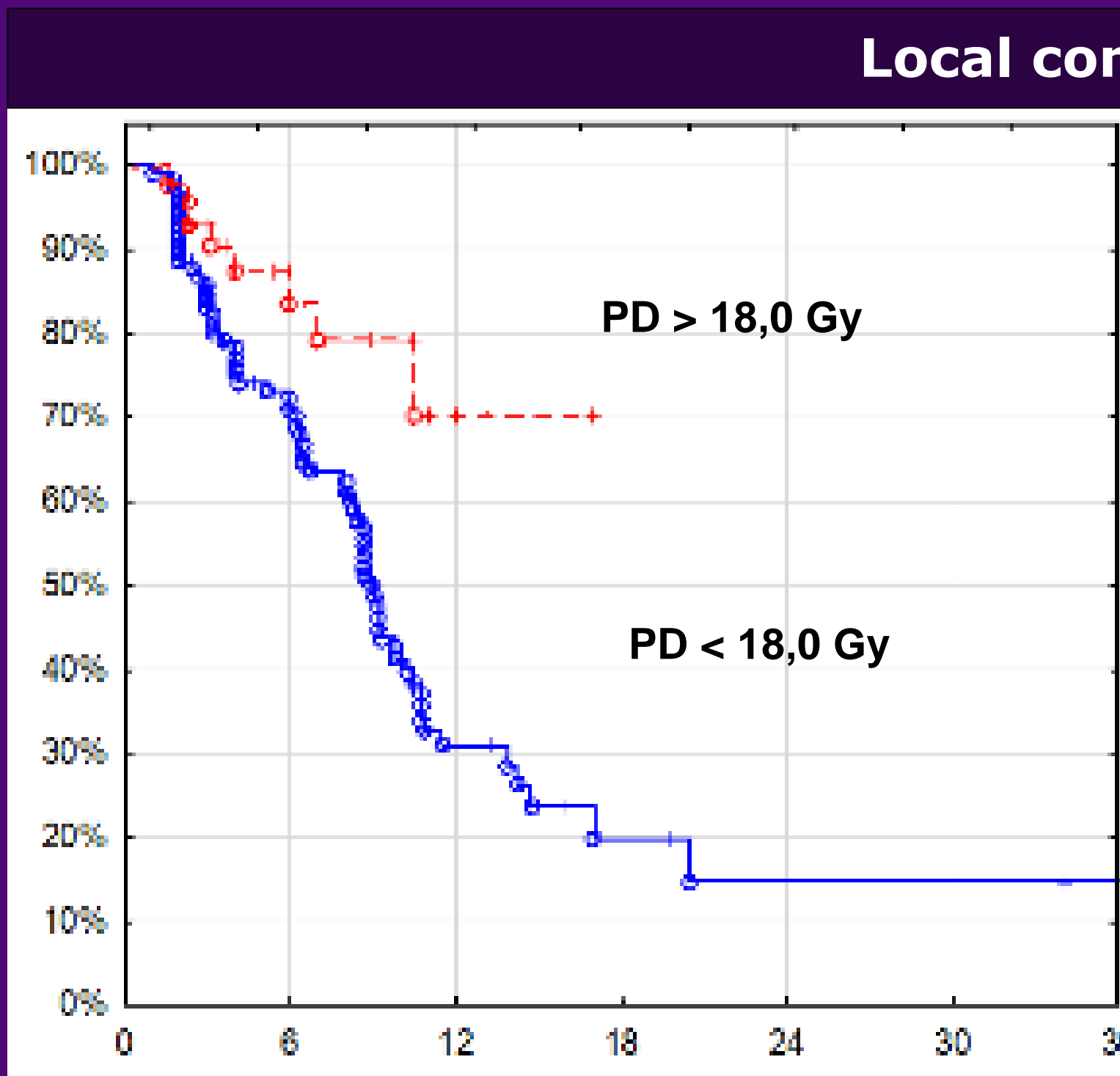
Series description		
GKRS dates	2005-2021	
Diagnosis	Glioblastoma relapses (GBM)	
Number of patients		168
Follow-up	patients	88
	lesions	180
Progression after initial treatment:	1 st	69 (78.4%)
	2 nd	19 (21.5%)

Patient characteristics	Values	Range
Age (mean), years	42.8 ± 2.1	4 – 73
Male	50 (56,9%)	
Female	38 (43,1%)	
Time to progression, months	12,7 ± 1,3	2 – 63
Lesion volume (median), cc	2.4 ± 0,4	0.01 – 43.2
Bevacizumab after SRS	67 (81%)	(1-19 courses)
Prescription dose (PD), Gy	20	10-25

Patient characteristics	Values
Type of progression:	88
Local (in field of prior RT)	49
Distant	39
Number of lesions for SRS:	180
Local	123
Distant	58
Single lesion	49
Multiple lesions (>2)	39



Results	
Annual OS	62.2%
Median OS	14.7 months
Radiation-induced toxicity (CTCAEv4.0) Grade 3	8.4%
Significant factors of LC	<ul style="list-style-type: none"> • Local relapse • Marginal dose ≥18 Gy



CONCLUSION

GKRS for recurrent GBM + systemic treatment:

- increases the OS
- preserve low levels of radiation toxicity.

GKRS for distant recurrences:

- high rates of LC,
- does not improve PFS
- maintaining satisfactory neurological status
- and quality of life.

12 months LC ($p = 0.03$):
 PD > 18.0 Gy – 70%
 PD < 18.0 Gy – 31%

12 months LC ($p = 0.05$):
 Distant relapse – 80.9%
 Local relapse – 65.5%

Median PFS ($p = 0,05$):
 Lesion volume >3.0 cc – 6.4 m
 Lesion volume <3.0 cc – 10.3 m

Median PFS ($p = 0.01$):
 Distant relapse – 3.6 m
 Local relapse – 9.1 m

GKRS may be recommended

- for small tumors (<3,0cc)
- with prescription doses ≥ 18,0 Gy

LC and PFS defined with Kaplan-Meier curves; group difference significance – with Gehans-Wilcoxon Test