

Supplementary material

Individual changes in neurocognitive functioning and health-related quality of life in patients with brain oligometastases treated with stereotactic radiotherapy

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Supplementary Table 1 Neurocognitive domain and the corresponding neurocognitive test(s)

Neurocognitive domain	Neurocognitive test(s)
Verbal memory	Rey Auditory Verbal Learning Test (immediate recall, delayed recall and delayed recognition)[26]
Visual memory	Rey Complex Figure Test (copying and delayed recall)[31]
Attention	Stroop Color-Word Test[24] Digit Span forward and backward, a subtest of Wechsler Adult Intelligence Scale III[27]
Executive functioning	Concept Shifting Test[28] Word fluency (category and letter fluency)[24] Key-search test, a subtest of the behavioural Assessment of the Dysexecutive Syndrome[29]
Working memory	Digit Span forward and backward, a subtest of Wechsler Adult Intelligence Scale III[27]
Information processing speed	Stroop Color-Word Test[24] Letter Digit Substitution Test[24]
Visuoconstruction	Rey Complex Figure Test (copying and delayed recall)[31]

Supplementary Table 2 Compliance with NCF and HRQoL assessments

	No. of Forms/ Assessments Expected ^a	No. of forms completed/ Assessments performed	
		NCF	HRQoL
Baseline	55	50 (91%)	54 (98%)
3 months	55	38 (69%)	51 (93%)
6 months	48	27 (56%)	41 (85%)
Baseline, 3 and 6 months	48	23 (48%)	37 (77%)

^aBased on alive participating patients, NCF = neurocognitive functioning, HRQoL = health-related quality of life

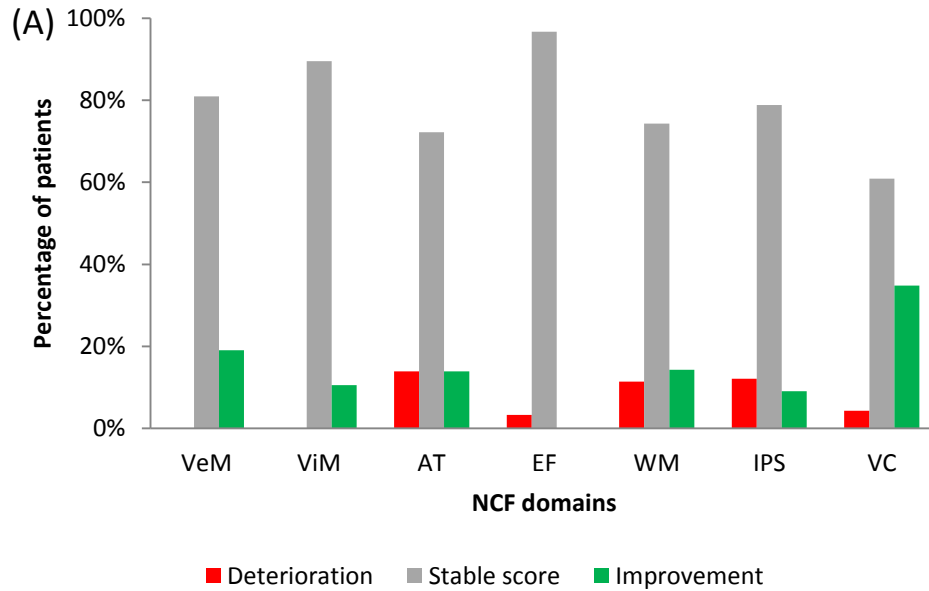
Supplementary Table 3 Changes in KPS scores from baseline - 3 months and 3 - 6 months, with respect to changes in NCF and HRQoL at patient level

	Changes in KPS scores (0-3 months, n=36; 3-6 months, n=24)					
	Deterioration		Stable		Improvement	
	0-3 months	3-6 months	0-3 months	3-6 months	0-3 months	3-6 months
NCF, No. (%)						
Decline	1 (3)	1 (4)	3 (8)	5 (21)	1 (3)	2 (8)
Both	1 (3)	0 (0)	0 (0)	0 (0)	1 (3)	1 (4)
Stable	14 (39)	4 (17)	6 (17)	6 (25)	4 (11)	2 (8)
Improvement,	1 (3)	0 (0)	1 (3)	2 (8)	3 (8)	1 (4)
HRQoL, No. (%)						
Decline	10 (20)	4 (11)	0 (0)	4 (11)	1 (2)	0 (0)
Both	15 (30)	6 (16)	12 (24)	13 (34)	5 (10)	3 (8)
Stable	1 (2)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)
Improvement	0 (0)	0 (0)	1 (2)	3 (8)	5 (10)	4 (11)

KPS = Karnofsky Performance Status, NCF = neurocognitive functioning, HRQoL = health-related quality of life

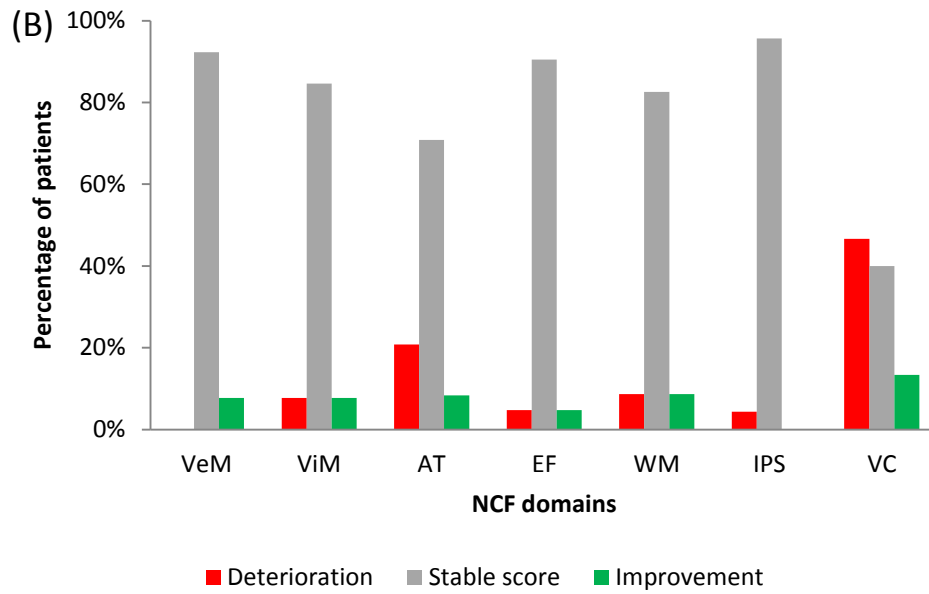
Note: Due to rounding, not all percentages add up to 100%

Supplementary Fig. 1 Changes in neurocognitive functioning (NCF) scores, using a change in z-score of ≥ 1.0 SD, at domain level calculated from **a** baseline - 3 months and **b** 3 - 6 months, and **c** patient level. VeM, verbal memory; ViM, visual memory; AT, attention; EF, executive functioning; WM, working memory; IPS, information processing speed; VC, visuoconstruction



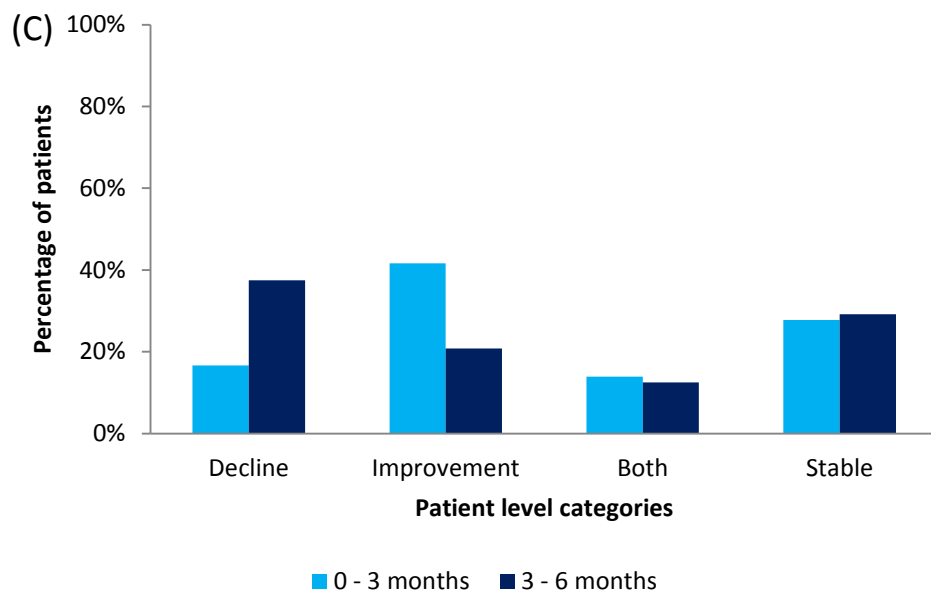
Number of patients at domain level, baseline - 3 months

	VeM	ViM	AT	EF	WM	IPS	VC
Deterioration	0	0	5	1	4	4	1
Stable score	17	17	26	29	26	26	14
Improvement	4	2	5	0	5	3	8



Number of patients at domain level, 3 - 6 months

	VeM	ViM	AT	EF	WM	IPS	VC
Deterioration	0	1	5	1	2	1	7
Stable score	12	11	17	19	19	22	6
Improvement	1	1	2	1	2	0	2



Number of patients at patient level (NCF)

	Decline	Improvement	Both	Stable
0 - 3 months	6	15	5	10
3 - 6 months	9	5	3	7