Table 1. Association of radiotherapy failure with Spinal Instability Neoplastic Score (SINS) as the total score and collapsed SINS score in categories stable, potentially unstable and unstable.

			Odds Ratio (95%CI)	
	Case (N=41)	Control (N=82)	Unadjusted	Adjusted*
SINS score†				
Median SINS (range)	9 (4 -16)	7 (1-16)	1.2 (1.1-1.4) ††	1.2 (1.0-1.5) ††
Mean SINS ± sd	9.6 ± 3.0	7.7 ± 3.2		
SINS categories§	*Number (percent)*			
Stable (0-6)	5 (12)	28 (34)	1.0	1.0
Potentially unstable (7-12)	28 (68)	46 (56)	3.8 (1.2-11.7) ††	4.8 (1.1-20.9) ††
Unstable (13-18)	7 (17)	8 (10)	6.5 (1.5-29.2) ††	10.9 (1.5-79.3) ††

Abbreviation: SINS, Spinal Instability Neoplastic Score
*Odds ratios were adjusted for sex, WHO status, primary tumor and symptoms
† Of 1 case and 1 control the SINS score could not be determined
†† P < 0.05
§ Of 1 case the category was unknown

Conclusions: The results of this study suggest that increasing spinal instability, as defined by the SINS score, is associated with radiotherapy failure. Therefore, patients with (potentially) unstable painful spinal metastases should be considered for surgical stabilization first.

PD-0532

Stereotactic radiotherapy for recurrent high-grade gliomas: retrospective analysis.

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Purpose/Objective: Numerous treatment options are availables for recurrent high-grade gliomas (rHGG), including reirradiation. Both fractionated stereotactic radiotherapy (FSRT) and radiosurgery (SRS) represent an optimal method to deliver high-dose radiotherapy to the small volume. Reirradiation is often limited due to the dose-prescription and target volume. The aim of this retrospective study was to evaluate the radiological and clinical efficacy of stereotactic radiotherapy for recurrent high-grade gliomas in terms of overall survival, radiological response and toxicity.
Materials and Methods: Between 2004 and 2011, 128 patients (158 lesions) with recurrent high-grade gliomas (63% Glioblastoma, WHO grade IV; 37% WHO grade III) were treated with CyberKnife stereotactic reirradiation. FSRT was performed in 96 lesions with 3-5 fractions; SRS in 62 lesions. The median time from first irradiation and SRS reirradiation was 12 months (range 6-157 months).
Results: Median survival time from the date of diagnosis was 32.1 months (95% CI, range 25.2 to 42.9 months). Median survival time from the reirradiation treatment was 11,5 months (95% CI, range 10-12 months). At 12 months, nineteen patients (15%) showed a radiological response (8% complete response) and at 6 and 12 months 20 patients (16%) and 10 (8%) respectively showed a stable disease. There have been 19 patients (15%) of G1-G2 acute toxicity (with headhache, nausea, fatigue and alopecia) and 7 pts (6%) of G3-G4 late toxicity (radiation-induced necrosis and neurological deterioration).
Conclusions: Salvage reirradiation with stereotactic radiotherapy for recurrent high-grade gliomas is safe and well tolerated. Radiographic response and duration of disease control suggest that this strategy is an effective treatment for recurrent HGG.

PD-0533

Response and quality of life in elderly with painful bone metastases: results from a randomized radiotherapy study

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Purpose/Objective: Elderly patients with cancer represent a different population compared to younger patients. Comorbidity and declining performance may result in lesser outcome after palliative treatments. Our goal was to study the effect of age on response to radiotherapy and quality of life in patients with painful bone metastases.
Materials and Methods: A large randomized radiotherapy trial showed equal effectiveness in pain relief of 8 Gy in a single fraction compared to 24 Gy in six fractions in patients with painful bone metastases. Between March 1996 and Sept 1998 1157 patients were included. At baseline and regular follow-up, patients completed questionnaires involving, among others, pain on an 11-point scale, several aspects of quality of life (QoL) (psychological distress, physical symptom distress, activity level impairment) and a verbally rated validation of QoL, all items derived from the Rotterdam Symptom Checklist. A visual analogue score (VAS) of QoL was added. Response was calculated conform international standards. Patients were grouped into three age-cohorts: A: 32-64 (n=520), B: 65-74 (n=410) and C: ≥ 75 years (n=227). For categorical variables, x-square was used, for continuous variables, one-way ANOVA, with Bonferroni post-hoctesting. For survival and response analyses, the Kaplan Meier method and Cox-regression were used.
Results: At baseline, visually and verbally rated QoL and QoL-sumscores were available in 92%, 94% and 94% respectively. Elderly patients had worse performance at inclusion (Karnofsky Performance Score 20-60: 26%(A), 29%(B), 39%(C), p=0.004). When assessing baseline QoL in different age groups, a difference in activity level was noticed (p<0.001, table 1), with significantly more impairment in group C compared to group B (p=0.01), and to A (p<0.001). Other QoL items were similar among age groups (table 1). During follow up, the decline in QoL was similar between the three age groups. Median survival was 35, 27 and 27 weeks for increasing age groups (p=0.05). Although elderly patients tended to respond less to radiation therapy compared to younger patients, there was still a significant response: C (67%) compared to A (78%, p=0.07), and to B (74%, p=0.36). No differences in mean time to response or between treatment arms were seen. In multivariate analysis, only primary tumor and performance score were significantly associated with response.

	Age group			
	A	B	C	
	< 65 yrs	*65-74 yrs*	*≥ 75 yrs*	*sign.*
n	520	410	227	
psychological distress *				n.s.
mean	30,66	29,95	30,91	
physical symptom distress *				n.s.
mean	23,05	22,82	23,60	
activity level impairment *				<0.001
mean	37,54	40,87	48,62	
VAS health *				n.s.
mean	53.54	53.99	56.91	
overall validation of life #				n.s.
mean	4.11	4.13	4.25	

* scores range from 0 to 100: 0 meaning no complaints, 100 representing maximum complaints
# scores range from 1 to 7: the higher the score, the worse the validation of life
Table 1. Baseline quality of life items

Conclusions: Although at baseline elderly patients had a higher activity level impairment, and a worse performance score when compared to younger patients, they did not evaluate their overall QoL as inferior. Moreover, the majority of elderly patients showed a meaningful response to radiotherapy for painful bone metastases. Therefore, palliative radiotherapy should be considered in elderly patients.

SYMPOSIUM: RECURRENT GLIOMA/GBM

SP-0534

New molecular markers for prediction and prognosis ñ ready for personalised therapy?

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In recent years we have made remarkable progress in molecularly characterizing glioma uncovering their patho-genetic evolution and classifying them into different subtypes. Some of these molecular markers have been recognized to improve diagnostic precision and have a prognostic or even a predictive value for patient management based on retrospective analysis of clinical trials. Among these markers are mutations in the isocitrate dehydrogenase (*IDH*) 1 or 2 gene that