chemotherapy to evaluate the rate of second cancers and their sites according to the extension of radiation fields. **Materials and Methods:** From 1990 to 1995, 140 patients (pts) with each stage of glioblastoma (GBM + bulky) received 4 cycles of ABVD and then they were randomized to receive STNI (36 Gy to involved sites and 30 Gy to uninvolved sites) or IF (36 Gy to involved sites). The endpoints of this review were to assess the rate of late toxicity in term of SPC and the spatial relationship between radiation fields extent and SPC. We used the topographical criteria defined by Dorr et al. to localize SPC compared to RT fields. Event-free survival (EFS) and overall survival (OS) were estimated by Kaplan-Meier method. crude and age-adjusted incidence rates of SPC were calculated by Poisson regression. **Results:** After a median follow-up of 203 months, 24 SPC were observed: 7 cutaneous basal cell carcinomas, 1 MDS, 16 solid tumours (11 breast, 2 prostate, 1 ovary, 1 skin, 1 colon). For this study we evaluated only solid cancers. 13 SPC were in STNI arm, 3 in IFRT (p = 0.014, median time to SPC was 172 months in STNI and 178 in IFRT). IR (incidence rate/1000 person-years) was 12.9 in STNI and 2.7 in IFRT (p = 0.014). In a univariate analysis, the second malignancies risk is higher in STNI versus IFRT (hazard ratio 4.40, 95% CI 1.00-18.94). **Conclusions:** Finally, CD63 expression was correlated with patients overall survival. **Objective:** Decision making strategies and timing of sequential treatment options vs. observation are warranted. **Results:** 71 patients re-irradiated in a single institution were retrospectively analyzed. Patients either received bevacizumab (N=57), other substances (N=4) or radiation alone (N=10). Re-irradiation was tolerated well regardless of the additional therapeutic agent. In one patient with bevacizumab a wound dehiscence occurred, one patient suffered from deep vein thrombosis resulting in pulmonary embolism. One patient died of a perforated sigma diverticulitis. Post-recurrence survival was significantly increased in patients receiving bevacizumab (N=0.003, log-rank test) as well as progression-free survival (N=0.005, log-rank test). KPS, surgery, MGMT, sex, WHO grade and age showed no statistically significant improvement in neither PFS nor survival. **Conclusions:** Re-irradiation with bevacizumab remains a feasible and highly effective treatment schedule. Studies on further salvage strategies and timing of sequential treatment options vs. observation are warranted. **PD-0529** A method to derive prognostic miRNA patterns predicting the outcome of GBM patients - problems and pitfalls C. Belka1, C. Sticht2, F. Zehentmayr2, M. Mittelbronni1, M. Niyyazi1 1University of Munich, Department of Radiotherapy, München, Germany 2University of Mannheim, Centre for Medical Research, Mannheim, Germany **Objective:** In order to define new prognostic subgroups in patients with glioblastoma (GBM) a method is presented how to derive potentially prognostic miRNA patterns employing a large screen (>1,200 different miRNAs) from paraffin tissues including associated methodological problems and pitfalls. **Materials and Methods:** Thirty-six GBM patients treated in a single institution basically according to the EORTC/NCIC protocol between 1/2009 - 12/2010 were included in this retrospective analysis. For microarray analysis, the plastic biochip “Genomic’s Biochip Inflammation MPEA homo sapiens’ was used. Total RNA was isolated from FFPE slides, altogether over 1,200 different miRNAs were analyzed. In order to define significant patterns, a Cox regression analysis for each single miRNA was performed using long-term survival (split at 450 days) as censor; significant miRNAs (without multiple-testing correction) were chosen and a hierarchical clustering analysis was performed; survival of the 12.0 months (95% CI 8.5-15.5) respectively. In multivariate analysis, the number of CD63+ cells emerged as a significant independent predictor for longer overall survival (HR 2.4, 95% CI 1.2-5.1, p=0.02). **Conclusion:** Present study revealed a beneficial role of inflammation on survival of GBM patients. In patients with higher number of CD63+ cells prior radiotherapy, significantly longer survival times were achieved. Additionally, inflammatory reaction was associated with tumour micromilieu: there were more inflammatory cells in the peripheral region of high proportion of necrosis and MP. Clearly, more studies are needed to evaluate the role of inflammation and tumour microenvironment on GBM treatment outcome. This work was supported by Institutional Research Funding