present estimates of LYL were considerable, and would benefit from used for radiotherapy planning. However, the uncertainty in the magnitudes larger than the LYL attributable to the diagnostic scans Figure 1: a) Effective doses and b) LYL-ratios.

POSTER: CLINICAL TRACK: PALLIATION/SUPPORTIVE CARE/PATIENT SUPPORT

PO-0741 Neurocognitive status as QoL index in solitary brain metastasis patients treated with WBRT vs SRS after surgery

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Purpose/Objective: Patient-age, performance status, psychological distress, disease-type, localization) and treatment (neurosurgery, radiotherapy, chemotherapy)-related factors may impact on cognitive functioning of metastasis patients. Neuropsychological involvement may be an important factor, reducing quality of daily life (QoL). This study aimed to evaluate difference between whole brain radiotherapy (WBRT) and radiosurgery (SRS) on neurocognitive functioning accordingly on QoL of brain metastasis patients. We did a randomized controlled trial to test our prediction.

Materials and Methods: Patients with solitary brain metastasis of solid tumors with stable systemic disease tumors and KPS >/= 70 were treated with complete surgery and randomly assigned to adjuvant WBRT (30 Gy in 10 fractions) or SRS (17-20 Gy single fraction) on surgical cavity (max diameter 3.5 cm). The primary end point was local control, secondary end points survival, quality of life and toxicity. 65 patients, fulfilling the study inclusion criteria, were treated since December 2009 to September 2012. After randomization 42 subjects were assigned to SRS group, 23 to WBRT. All subjects were tested to assess global cognitive functioning using the Mini Mental State Examination (MMSE): at baseline (T1) before radiotherapy treatment, after one year (T2) and after 2 years (T3). Preliminary results were available for 55 subjects at T1, for 25 subjects at T2, for 6 at T3.

Results: The pretreatment MMSE was available for 37 patients randomized for SRS, 18 for WBRT. The sample did not present cognitive deficit post surgery and no statistically significant difference were found between the baseline MMSE of two groups (P = 0.064). Of the 25 patients underwent the follow-up MMSE at one year, 10 (40%) had improved their scores and 5 (20%) worsened in SRS group; all subjects (100%) obtained lower scores in WBRT group. From preliminary evaluations it was found a statistically significant difference between the neurocognitive performance of WBRT group and the SRS one (P = 0.039). Currently, there’s no sufficient data at 2 years.

Conclusions: The results of this study have revealed that the long-term adverse effect of WBRT on neurocognitive functioning might not be negligible also for the quality of life of brain metastases patients.

PO-0742 Palliative radiotherapy for bone metastases. Differences in the symptomatic relief according to the primary tumor

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Purpose/Objective: Many studies have assessed the fractionation scheme to choose the most appropriate in individual cases. Various fractionation schemes can provide a response equivalent to the control of pain, although longer treatment has the advantage of a lower incidence of reprocessing the same site. The aim of our retrospective study was to evaluate the differences in requirements and the impact of different radiotherapy schedules on patients symptoms in relationship to primary tumor type and quality of life.

Materials and Methods: We analyzed 458 treatments of palliative radiotherapy for bone metastases. For these patients, we did control of pain, performance status and pain-therapy, before treatment, after treatment, and 180 days after the end of treatment. We analyzed the data using the T-test for paired data and the ANOVA test and we performed a comparison of performance status and pain in relation to the type of fractionation.

Results: We noticed an improvement in performance status and pain relief in all groups, but the pain improvement was more evident in patients treated with single fraction, while we noticed a difference of the average KI before and after RT, even if not statistically significant, in favor of the longest fractionation (30 Gy) schemes. We also have focused our attention in patients with primary tumors with expected greater overall survival, in particular, we considered patients treated for bone metastases from breast cancer. The differences between averages with ANOVA test seemed to demonstrate an advantage in favor of the 30Gy schedule for the KI (ns, p = 0.105), while they were favorable to the single fraction of 8 Gy for the KI (ns p = 0.001).

Conclusions: We have obtained data which are in line with the statement made in recent years on the equivalence of the various types of fractionation for the control of pain from bone metastases, but that suggest a greater attention to the radiation oncologist in the choice of the patient to be subjected to various types of fractionation. It is recommended to put a considerable amount of attention over which the clinical condition of patients, the primary tumor (breast) of patients who, for the greater life expectancy resulting from the natural history of cancer, should have a better access to a more prolonged treatment.

PO-0743 Once weekly stereotactic radiotherapy for oligometastatic patients: compliance and preliminary efficacy

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Purpose/Objective: This retrospective analysis reports the outcomes obtained with an original once weekly stereotactic radiotherapy fractionation delivered for patients affected by evolving oligometastases from different solid malignancies.

Materials and Methods: From 2009 to 2011 patients with symptomatic and/or evolving oligometastases were submitted to a median 5-fraction-cycle of stereotactic radiotherapy by delivering only one a fraction per week in order to exploit a radiobiological rationale designed to increase the therapeutic index. Individual fractionation was mainly planned according to patient performance status, oligometastases size and site and record of previous irradiation in the same site.

Results: Thirty-six patients in stage IV UICC-TNM affected by oligometastases were treated with image-guided/intensity modulated stereotactic tomotherapy by delivering a single weekly radiation. Median age was 70 yrs (34-89 yrs). The median weekly single dose, number of fractions and overall total radiation dose were 7 Gy, 5 fractions and 35 Gy, respectively. Thirty-five (97%) patients completed the treatment schedule. No patient suffered mild or severe radiotherapy-related side effects. Twenty-one (87%) out of 24 patients with local pain had complete symptomatic response within 30 days from the end of radiotherapy. Local control assessed at imaging after SRT was evidenced in 30 (83%) of patients. Median time to response after the end of radiotherapy was 40 days.