years PFS was 79% and 40%, respectively. Median time to progression and median OS were 18 months and 24 months, respectively. Local control was 93% at 1 year and 64% at 2 years. Local progression occurred in 4 metastases (14%). Overall, acute toxicity occurred in 18% (4/22) of patients; two patients experienced grade 2 pneumonitis. Grade 1-2 late toxicity occurred in 50% of patients. No grade≥3 toxicities were recorded.
Conclusions: Local treatment is a feasible and well-tolerated treatment for oligometastatic NSCLC patients. Ablative RT has a potential role in the local control of the lung metastases and in the management of well-selectedstage IV NSCLC patients in increasing quality of life and survival.

EP-1182
FDG-PET does not predict outcome for early stage non-small-cell lung cancer after sterotactic body radiotherapy
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Purpose/Objective: The aim of this study was investigate whether the standardized uptake value (SUV-max) of tumor from [18F]-fluoro-2-deoxy-glucose positron emission tomography (FDG-PET) was associated with outcome in patients with non-small-cell lung cancer (NSCLC) treated with curative stereotactic body radiotherapy (SBRT).
Materials and Methods: Between January 2006 and January 2014, a total of 46 patients with medically inoperable early stage NSCLC underwent SBRT. 32/46 (69.57%) and 14/46 (30.43%) had stage IA and IB, respectively. The treatment was administred as 40-50 Gy in 5 fractions; the dose was prescribed to the isocenter. Histology was confirmed in 36/46 (78.26%) patients. All received FDG-PET/computed tomography (CT) at the same institution before SBRT, 3-4 months after the end of SBRT and every 4-6 months thereafter. We reviewed the values of the metabolic activity of the lung lesion before and after treatment, expressed as maximum standardized uptake value (SUV-max) before SBRT (SUV-max pre-SBRT), first SUV after SBRT (1st SUV-post-SBRT) and the lowest value of SUV in the longitudinal follow-up (SUV-nadir). The values were then analyzed with Cox proportional hazards regression to assess whether the metabolic activity could has a predictive value in treatment outcome: local failure (LF), mediastinal failure (MF), systemic progression (SP), overall survival (OS) and cancer specific survival (CS).
Results: Median follow-up was 20.5 months (range 4 – 91) for whole group. The median SUVmax pre-SBRT was 7.70 (range,1.4-28.9), median 1st SUV post-SBRT was 3.25 (range 0.0-9), median SUV-nadir was 1.90 (range 0.0-8). Local complete and partial response was observed in 37/46 (80.43%) and 9/46 (19.57%) patients, respectively. Kaplan-Meier three-years LF, MF, SP were 18.7%, 5% and 5%, respectively. Three-years OS and CS were 67.7% and 82.1%, respectively. We have found similar rates of response in terms of complete and partial response, even if the SUVmax before treatment was higher or lower than the median value in our study (7.70). In univariate analysis, SUVmax pre-SBRT, 1st SUV-post-SBRT and SUV-nadir did not predict for LF, MF, SP, OS and CS.
Conclusions: SBRT was an effective treatment for medically inoperable early-stage NSCLC. On the basis of our results PET SUV-max pre-SBRT, 1st SUV-post-SBRT and SUV-nadir did not predict for LF, MF, SP, OS and CS.

Electronic Poster: Clinical track: Breast

EP-1183
Inter- and intra-variability of dynamic FDG-PET data in breast cancer xenografts
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Purpose/Objective: A murine breast cancer xenograft model was employed to evaluate inter- and intra-variability of various parameters derived from dynamic positron emission tomography with [18F]fluorodeoxyglucose as tracer (FDG-PET).
Materials and Methods: 17 female athymic nude foxn1/nu mice with bila-terally implanted triple-negative basal-like ductal carcinoma (MAS98.12) breast cancer xenografts underwent a dynamic PET scan over an hour after injection of ~10 MBq FDG. Inter-animal data were obtained from the entire animal cohort, while intra-animal data were obtained fro-m four mice which received an additional scan after one or two days. Standardised uptake values (SUV_{max}, SUV_{mean} and SUV_{median}) were estimated for all tumours and livers at different time points. Tumour uptake was analysed with Patlak analysis and a full kinetic two-compartment model for estimation of pharmacokinetic parameters. The coefficient of variation (CV) was calculated for all PET-derived metrics.
Results: The CV for SUV_{mean} and SUV_{median} was typically 10-20% for the tumours, depending on the time post injection and group (intra *vs* inter). The CV for SUV_{max} was mostly higher at all time points p.i. The variability in the pharmacokinetic parameters ranged from 23 to almost 150%.
Conclusions: SUV_{mean} and SUV_{median} show less variability than SUV_{max}. Still, pharmacokinetic tumour metrics show much greater variability than the SUV based metrics. However, it is generally not known which of these metrics that best represents cancer aggressiveness and their use may still depend on the research questions addressed.

EP-1184
Hypofractionated simultaneous integrated boost radiotherapy after breast-conserving surgery: 3 years follow-up
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Purpose/Objective: The scheme of standard radiotherapy for breast cancer treatment involves a high total dose in 25 fractions. However, a decrease in the total dose, together with an increase in the dose per fraction (hypofractionation) is discussed to be at least as effective as standard treatment. The objective of our study is to analyze the results in local control, acute and late toxicity and cosmetic outcome in patients treated with hypofractionated radiation therapy after conservative surgery for breast cancer in our center.
Materials and Methods: A retrospective analysis of all women diagnosed with breast cancer (Stage 0-III) and treated with breast-conserving surgery followed by hypofractionated scheme from 2006 to 2011. Total dose on mammary gland: 42.4 Gy to 2.65 Gy / fraction, for a total of 16 sessions with concomitant boost to 7.7 Gy (0.48 Gy / fraction). We included patients treated with chemotherapy, hormonal therapy and trastuzumab. Acute and late toxicities were scored according to the Common Terminology Criteria for adverse Events version 4.0 and cosmetic outcome were assessed during follow-up every three months up to 2 years and every six months up to 5 years after radiotherapy.
Results: We have treated 143 women with hypofractionated scheme. After a median follow up of 36 months, the local recurrence rate was 1.4%, only 3.5% experienced nodal relapse, one patient developed a contralateral breast cancer and 6.3% had distant metastases as first event. There was no acute toxicity in 28.4% of cases, being the most frequent grade 1 radiodermatitis (61.1%). Regarding late toxicity, this was not observed in 65.6%, being grade 1 fibrosis in the treated area the most common. The cosmetic outcome was good or excellent in 90% of patients treated. At the end of the study, 83.8% remained alive without disease, 7% alive with disease, 4.9% exitus due to tumor and 4.2% were died due to other causes.
Conclusions: The hipofractionated scheme after conservative surgery in breast cancer provides a good control of the disease without causing excessive toxicity and providing good cosmetic outcomes. Similar results to standard treatment can be obtained with a significant reduction in overall treatment time.

EP-1185

Breast cancer located in medial site is a candidate for regional nodal irradiation after breast conserving surgery

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Purpose/Objective: Early breast cancer treated with breast conservative therapy (BCT), usually has a good prognosis. Recommended target field of RT field is whole breast. However, added to the results from MA.20 about regional nodal irradiation (RNI) to patients with pN1 status, EORTC 22922/10925 reported the benefit of RNI for overall survival including internal mammary and medial supraclavicular lymph node chain especially in tumors situated in medial (=inner/central) site without axillary lymph node metastasis. Based on our long term date specifically focused on tumor site, we assessed the possible utilization of RNI for application guideline of breast cancer in Japan.
Materials and Methods: A total number of patients who were treated with BCT are 1200 in our institution. Patients with simultaneous bilateral breast cancer and non-invasive breast cancer were excluded. Cases with RNI were also excluded. 1079 cases out of 1200 treated with BCT until December 2012 were analyzed.
Median age at diagnosis is 53 years (range: 25-85). Major histological type is invasive ductal cancer (93.4%). Tumor sizes of origin was in T1; 65.0%, T2; 32.6%, and T3; 1.1%. Positive lymph node metastasis was seen in 24.7%. 37.6% of patients received chemotherapy, and 73.3% underwent hormone therapy. All patients were treated with postoperative whole breast RT, in which 37.8% received boost RT of 10-14Gy.
Results: Median follow up period was 120 months (range: 4-300). A number of tumors located in inner site was 393 (36.8%), and a number of tumors in outer site was 676 (63.2%). According to EORTC trial, centrally situated cases were regarded as inner cases at the analysis. Ten year overall survival rate was favorable (90.1% at inner site and 92.7% at outer site (p=0.189)), local recurrence free survival (LRFS) at inner/outer site were 90.1%/93.7% (p=0.79), distant metastasis free survival (DMFS) were 88.4%/90.1% (p=0.594), and disease free survival (DFS) were 72.9%/79.4% (p=0.03) respectively. Only DFS was significantly better in outer group.
In cases with positive nodes, LRFS, DMFS, and DFS were not significantly different between inner and outer sites. Notably in cases with negative nodes, LRFS/DFS/OS of inner situated cases were statistically significantly worse.
Conclusions: In current clinical practice, the whole breast RT is recommended to patients with inner situated tumors, however, especially in the patients with negative nodes, RNI should be considered as a state of the art strategy.

EP-1186

Neoadjuvant systemic therapy utilization in breast cancer; potential impact on nodal radiotherapy

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Purpose/Objective: Neoadjuvant systemic therapy (NAST) in breast cancer potentially down-stages disease, thereby posing challenges to the standard indications for nodal irradiation. We assessed the pattern of NAST utilization in our province and its effect on the recommendation for nodal radiotherapy (RT).
Materials and Methods: Of the 11,628 patients with stages I to III breast cancer from 2007-2012, 603 patients (5.2%) were treated with NAST. Data from our provincial database were obtained to determine relationships between NAST use and nodal irradiation.