concentrated on optimizing dose schedules, we proposed a study demonstrating that using more technically advanced techniques would result in equivalent symptomatic relief and reduce symptomatic oesophagitis.

**Material and Methods:** Thirty-five patients with symptomatic locally advanced or metastatic NSCLC were treated using a three-dimensional conformal technique and standardized dose regimens of 39 Gy in 13 fractions, 20 Gy in 5 fractions or 17 Gy in 2 fractions. Treatment plans sought to minimize oesophageal dose and oesophagitis was recorded during and at one month and three months following radiation therapy where applicable. Mean dose to the irradiated oesophagus was calculated for all treatment plans.

**Results:** At follow-up of one month after therapy for all patients accrued, there were no grade three or higher symptoms in the setting of NSCLC, however no direct study demonstrating that using more technically advanced techniques would result in equivalent symptomatic relief and oesophageal dose and oesophagitis was recorded during and at one month and three months following radiation therapy where applicable. Mean dose to the irradiated oesophagus was calculated for all treatment plans.

**Conclusion:** Use of three-dimensional conformal radiation techniques is widely practiced for treating intra-thoracic symptoms in the setting of NSCLC, however no direct study exists proving its superiority in reducing toxicity. This trial is the first of its kind showing that such techniques do provide patients with lower rates of oesophageal toxicity whilst yielding acceptable rates of symptom control. (Supported by the All-Ireland Cooperative Oncology Research Group (ICORG). Trial registration number 06-34)

**Purpose or Objective:** To determine predictive factors of local recurrence (LR) after Stereotactic Body Radiotherapy (SBRT).

**Material and Methods:** Data were retrospectively analyzed from 136 consecutive patients and 156 lung tumors treated with curative intent SBRT between April 2012 and December 2014 at our institution. Most patients had early lung cancer (76%). SBRT was also included in the treatment strategy for locally advanced (3%) or oligometastatic (21%) patients with an intent to complete response.

**Results:** The median follow-up was 21.8 months (2.4-70.8 months). The median age at diagnosis was 66.5 years (33-89 years) and median performance status was 0.5 (range 1-3). 54% patients had a smoking history with a median VEMS of 62.2%. Histological confirmation was obtained in 67%: 35% adenocarcinoma, 21% squamous cell carcinoma, 5% undifferentiated NSCLC and 5% other. Molecular markers were known in 27 tumors (17%): negative markers in 10%, KRAS mutation in 6%, other in 2%. Tumor location was central in 28%, peripheral in 48%, and intermediate in 24%. Median SUVmax at diagnosis was 7.1. Median ITV was 31.7 cc (0.56-104.8 cc) and median Biological effective dose (BED) was 123.8 Gy (72-151.2 Gy, α/β=10). 11 LR occurred resulting in a 2 year LR rate of 8% [CI 95%: 3-14%]; median: not reached; mean time to LR: 38.4 month [CI 95%: 36-39.6]. BED ≤100Gy (HR=5 [CI 95%: 1.1-22]; p=0.03), and Internal Target Volume (ITV) ≥20cc (HR=4.9 [CI 95%: 1.3-18.5]; p=0.02) were associated with a decreased LR in the multivariate analysis (MVA). Histology (squamous cell carcinoma), central location, and SUVmax of the treated lesion > 8 were not associated with local control in the MVA. Delay from diagnosis to SABR and molecular markers were not correlated with LR results in the univariate analysis. Two years overall survival and progression free survival rates were respectively 74% (IC 95%: 65-83%) and 62% (IC 95%: 52-72%).

**Conclusion:** BED should carefully be taken into account, particularly in case of tumors that exceed 20 cc

**EP-1246**

**Radiotherapy for loco-regional recurrence of non-small-cell lung cancer after complete resection**

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**Purpose or Objective:** Although there is no standard treatment for postoperative recurrence of non-small-cell lung cancer (NSCLC), radiotherapy is occasionally used in the treatment of loco-regional recurrences. The objective of this study is to analyze clinical results of curative intent radiotherapy for loco-regional recurrence of NSCLC after complete surgical resection.

**Material and Methods:** A total of 38 patients, who had developed loco-regional recurrence after complete resection and received curative intent radiotherapy between 1999 and 2014, were retrospectively analyzed. There were 29 male patients and 9 female patients. The age range was 47-89 years (median 70 years). 25 patients had adenocarcinoma, thirteen patients squamous cell carcinoma. There were 29 patients with regional lymph nodes recurrence, and 10 patients with local recurrence at primary or anastomotic sites with or without lymph nodes recurrence. No patient had distant metastasis at presentation. The clinical endpoints included overall survival, progression-free survival, loco-regional recurrence within the irradiated field, and any other recurrence. The overall survival and local control rate were calculated from the day of radiotherapy completion and estimated by Kaplan-Meier method.

**Results:** The median total dose of radiotherapy was 60 Gy (range, 50-70 Gy). Thirteen of the 38 patients were treated with concurrent chemotherapy. The median follow-up time after radiotherapy was 30.4 (2.9-151) months. 1-year survival rates were 81.2, 69.6, 55.7, 48.5 and 39.6%, respectively. The 5-year progression-free survival, and local control rate were 32.6%, and 67.6%, respectively. Eight patients have survived more than 5 years. There was no significant difference between patients with lymph nodes recurrence and those with local recurrence in overall survival.

**Conclusion:** Radiation therapy for loco-regional recurrence after complete resection provides acceptable disease control. Curative intent radiotherapy can be the treatment of choice if no evidence of metastasis is observed.

**Purpose or Objective:** To determine predictive factors of local recurrence (LR) after Stereotactic Body Radiotherapy (SBRT).

**Material and Methods:** Data were retrospectively analyzed from 136 consecutive patients and 156 lung tumors treated with curative intent SBRT between April 2012 and December 2014 at our institution. Most patients had early lung cancer (76%). SBRT was also included in the treatment strategy for locally advanced (3%) or oligometastatic (21%) patients with an intent to complete response.

**Results:** The median follow-up was 21.8 months (2.4-70.8 months). The median age at diagnosis was 66.5 years (33-89 years) and median performance status was 0.5 (range 1-3). 54% patients had a smoking history with a median VEMS of 62.2%. Histological confirmation was obtained in 67%: 35% adenocarcinoma, 21% squamous cell carcinoma, 5% undifferentiated NSCLC and 5% other. Molecular markers were known in 27 tumors (17%): negative markers in 10%, KRAS mutation in 6%, other in 2%. Tumor location was central in 28%, peripheral in 48%, and intermediate in 24%. Median SUVmax at diagnosis was 7.1. Median ITV was 31.7 cc (0.56-104.8 cc) and median Biological effective dose (BED) was 123.8 Gy (72-151.2 Gy, α/β=10). 11 LR occurred resulting in a 2 year LR rate of 8% [CI 95%: 3-14%]; median: not reached; mean time to LR: 38.4 month [CI 95%: 36-39.6]. BED ≤100Gy (HR=5 [CI 95%: 1.1-22]; p=0.03), and Internal Target Volume (ITV) ≥20cc (HR=4.9 [CI 95%: 1.3-18.5]; p=0.02) were associated with a decreased LR in the multivariate analysis (MVA). Histology (squamous cell carcinoma), central location, and SUVmax of the treated lesion > 8 were not associated with local control in the MVA. Delay from diagnosis to SABR and molecular markers were not correlated with LR results in the univariate analysis. Two years overall survival and progression free survival rates were respectively 74% (IC 95%: 65-83%) and 62% (IC 95%: 52-72%).

**Conclusion:** BED should carefully be taken into account, particularly in case of tumors that exceed 20 cc

**EP-1246**

**Is there a different dose-effect relation between the tumour and involved lymph nodes in NSCLC?**

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**Purpose or Objective:** It is unknown whether dose-response for the primary tumor is different from that of the involved lymph nodes (LN). As the recurrence rate is much lower in LN, we hypothesized that involved LN need a lower radiation dose than the primary tumor.