

involvement of the esophagus. Without, courses with low complications and good local control are possible.

EP-1236

Does a localized NSCLC treated with SBRT affect the survival in COPD patients?

S. Jeppesen^{1,2}, N.C.G. Hansen³, T. Schytte¹, M. Nielsen⁴, O. Hansen^{1,2}

¹Odense University Hospital, Department of Oncology, Odense, Denmark

²University of Southern Denmark, Institute of Clinical Research, Odense, Denmark

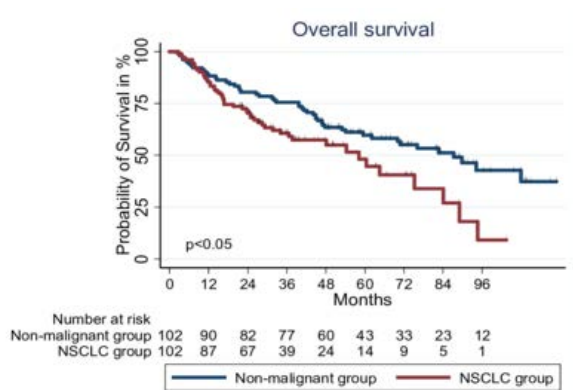
³Odense University Hospital, Department of Respiratory Medicine, Odense, Denmark

⁴Odense University Hospital, Laboratory of Radiation Physics, Odense, Denmark

Purpose or Objective: The most common reason for patients (pts) with localized NSCLC to be deemed medical inoperable is Chronic Obstructive Pulmonary Disease (COPD). COPD is associated with severe morbidity and mortality. It is not known if the prognosis of COPD pts is so poor that diagnosed localized lung cancer may only have little impact on survival. The aim of this study was to compare survival in SBRT treated COPD pts unfit for surgery and COPD pts without a malignant diagnosis.

Material and Methods: Data for the group of SBRT treated NSCLC pts from our institution were prospectively recorded from 2007 until 2013. The non-malignant control group was retrospectively selected among pts referred to the Department of Respiratory Medicine from 2005 until 2011 due to suspected lung cancer, which was subsequently ruled out. From both groups pts were selected for the present analysis if spirometry fulfilled the criteria for COPD defined as the ratio between forced expiratory volume in 1 second (FEV1) and forced vital capacity (FVC) less than 70%. The COPD was classified according to international GOLD criteria as mild, moderate, severe, or very severe based on FEV1 in percent of predicted (FEV1%pred). Propensity score matching (PSM) was performed to reduce confounding between the two groups based on age, gender, and FEV1%pred. The treatment survival outcome variable was calculated using the Kaplan-Meier method. Log rank test was used for testing differences in survival rates.

Results: 102 SBRT treated pts (NSCLC group) and 573 pts without malignant disease (non-malignant group) were enrolled after a spirometry revealed COPD. No SBRT-related deaths were observed. Pts in the NSCLC group were older ($p < 0.05$) and had worse FEV1%pred ($p < 0.05$). PSM identified 102 pts from each group with similar characteristics: mean age of 72.7 years, FEV1%pred of 52, and 54 women. In the matched comparison a significant difference in the median overall survival was observed, 57 months vs. 87 months in the NSCLC and non-malignant groups, respectively $p < 0.05$ (figure 1). Subgroup analyses of pts with mild/moderate COPD and pts with severe/very severe COPD showed that the difference in mOS in the unmatched and matched comparison was more pronounced in pts with mild/moderate COPD.



Conclusion: In a matched comparison, SBRT treated COPD pts with localized NSCLC had worse survival compared with COPD pts without a malignant diagnosis. Despite the serious prognosis of COPD, a diagnosis of localized NSCLC affected the survival in COPD pts.

EP-1237

Cyberknife Radiosurgery for spinal metastasis from lung cancer

I. Jung¹, S.Y. Song¹, S.D. Ahn¹, J.H. Kim¹, S.W. Lee¹, S.M. Yoon¹, Y.S. Kim¹, J.H. Park¹, S.S. Kim¹, E.K. Choi¹

¹Asan Medical Center- Univ of Ulsan, Radiation Oncology, Seoul, Korea Republic of

Purpose or Objective: To evaluate efficacy and safety of Cyberknife radiosurgery (CKRS) in patients with spinal metastasis from lung cancer.

Material and Methods: From July 2011 to October 2014, 64 patients received CKRS for spinal metastasis from pathologically confirmed lung cancer. Medical record of 75 lesions in 64 patients retrospectively reviewed. Pain control, radiological tumor control, especially epidural mass, and treatment related complications such as vertebral compression fracture and pain flare were assessed. Radiologic response was assessed following RECIST criteria. Pain response was defined according to International Bone Metastases Consensus Working Party palliative RT endpoints.

Results: Median age of patients with bone metastasis was 61 years (36-81 years). 42 patients (63.6%) had bone metastasis at initial diagnosis. Mean tumor diameter was 2.59 cm (1.2 cm-8.3cm), and 16 patients had epidural extension. was found in 16 patients (21.3%). Radiation dose were 14 - 32 Gy per 1-4 fx (BED($\alpha/\beta=10$): 28.8-57.6 Gy, median 41.6 Gy). Radiologic evaluation with CT or MR after CKRS was done at 54 lesions (72.0%). Pain response was assessed in 59 lesions (78.7%). With median follow-up of 10.5 months (1 - 40 months), local tumor progression was found in 9 lesions (12.0%), and median time to progression was 10.1 months. 1 year and 2 year local progression free survival rate was 84.6% and 79.7%. Among 16 lesions with epidural extension, 11 lesions had evaluated by CT or MR, and the tumor regression achieved in 8 lesions (72.7%). Pain response rate after CKRS was 83.1% (CR : 28.6% , PR : 71.4% , SD : 20.4%). All patients tolerated the CKRS course well. Compression fracture was found in 31 lesions (41.3%) but only 13 lesions(17.3%) collapsed among 54 lesions(72.0%) with osteolysis.

Conclusion: Cyberknife radiosurgery is an effective for local control and safe treatment modality to osteolytic spinal metastasis from lung cancer.

EP-1238

Thoracic re-irradiation following curative intent radiotherapy for non-small cell lung cancer

S. Scobie¹, G.G. Hanna², K. Franks³, J. McAleese⁴, S. Harrow⁵

¹Edinburgh Cancer Centre, Clinical Oncology, Edinburgh, United Kingdom

²Centre for Cancer Research and Cell Biology + Northern Ireland Cancer Centre, Queen's University of Belfast + Belfast City Hospital, Belfast, United Kingdom

³St James's Institute of Oncology, Leeds Cancer Centre, Leeds, United Kingdom

⁴Northern Ireland Cancer Centre, Belfast City Hospital, Belfast, United Kingdom

⁵Beatson West of Scotland Cancer Centre, Beatson West of Scotland Cancer Centre, Glasgow, United Kingdom

Purpose or Objective: Following curative intent radiotherapy, up to 50% of patients with non-small cell lung cancer (NSCLC) experience local recurrence. This may be associated with significant symptomatology such as airways obstruction, haemoptysis and pain. Re-irradiation may be useful to palliate symptoms and to attempt cure, but little is known about effectiveness, usage rates, techniques used and clinical outcome. We report the incidence of thoracic re-irradiation following curative intent thoracic radiotherapy.