

patients with pathological N2 disease was 806 days, with 30 day survival of 99% and 1 year survival 76%.

Conclusions Lung cancer patients with stage IIIA disease make up a very small proportion of the overall lung cancer population. Only a small proportion of these patients receive surgery and there is significant discrepancy between the recorded pre and post operative nodal status. In patients with pathological confirmed N2 disease survival is similar to the 713 days reported in the Albain study. The automated collection of detailed radiotherapy/chemotherapy treatment data in future will allow a more reliable comparison between surgical and non-surgical treatments.

S108 STATIN USE AND CIGARETTE SMOKING ARE ASSOCIATED WITH LOWER INCIDENCE OF RADIATION PNEUMONITIS

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Background Three months after radical radiotherapy for lung cancer, 50–60% of patients have radiation pneumonitis (RP) on CT thorax. Our aim was to assess the clinical and dosimetric factors associated with radiologically-defined RP. Our primary endpoint was the development of new infiltrates on CT thorax at 3 months following radiotherapy.

Methods 161 patients with lung cancer were referred for radical radiotherapy during 2009–2010. Exclusion criteria were previous thoracic radiotherapy or surgery, palliative radiotherapy, or missing dosimetric or CT data.

Information on medical history, lung function and date of death were taken retrospectively from electronic notes. Dosimetric parameters V20-Lung (percentage normal lung exposed to more than 20Gy), V5-Lung and Mean Lung Dose were derived from treatment planning dose-volume histograms. Development of RP was defined as an increase in the percentage lung volume occupied by consolidation or ground glass on post-radiotherapy CT. Student's t-test and Fisher's Exact Test were used to define variables which were associated with RP prior to logistic regression analysis.

Results 98 cases were included in analysis. 86% had non-small cell lung cancer, 44% had chronic obstructive pulmonary disease (COPD), and 27% smoked. 49/98 (50%) patients developed RP on CT at median 90 days post-radiotherapy.

The factors which had a significant positive correlation with RP on univariate analysis were V20-lung, V5-lung and MLD: these were best represented using $V20\text{-Lung} \geq 22\%$. Current smoking, poor performance status and having COPD had a significant inverse correlation with RP. Use of statins or inhaled Long Acting β_2 Agonists, and the presence of moderate-severe radiological emphysema also approached significance: these were included in regression analysis.

After logistic regression, the factors which had a significant correlation with RP were $V20 \geq 22\%$ (OR 6.45, 95%CI 2.22–18.08), current smoking (OR 0.23, 95%CI 0.07–0.79), and statin use (OR 0.30, 95%CI 0.102–0.863).

Neither RP nor any other variable was associated with post-radiotherapy mortality.

Conclusions This study confirms that $V20 \geq 22\%$ is associated with the radiological development of RP. In addition, patients

who smoked, and those taking statins were significantly less likely to develop RP. A potential role for statins in modifying radiotherapy side effects deserves further attention.

S109 THE INTRODUCTION OF STEREOTACTIC ABLATIVE RADIOTHERAPY INCREASES OVERALL RADICAL TREATMENT RATES FOR STAGE I LUNG CANCER BUT DOES NOT REDUCE SURGICAL RESECTION RATES—A TWO CENTRE STUDY

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Background Stereotactic ablative radiotherapy (SABR) is a new treatment option for peripheral stage I lung cancer in patients unfit for surgical resection. SABR was introduced to Leeds Teaching Hospitals (LTHT) and Mid Yorkshire Hospitals (MYH) in May 2009. We sought to establish what effect the introduction of SABR had on surgical resection rates for stage I lung cancer, and compared clinical characteristics of patients receiving surgery, SABR, conventional radical radiotherapy (RRT) and best supportive care.

Methods All patients diagnosed with stage I lung cancer from 2008 to 2011 were analysed for treatment modality, performance status (PS) and lung function.

Results 565 stage I patients were studied and treatment rates over the 4 year period are shown below. The proportion of patients receiving SABR rates rose from 0% in 2008 to 26.1% in 2011. Surgical resection rates remained largely unchanged, but there was a reduction in the proportion of patients receiving best supportive care from 32.6% in 2008 to 13.7% in 2011. Overall radical treatment rates for the four years were 60%, 70.7%, 68% and 85% for 2008–2011 respectively.

The proportion of patients with PS 0–1 were as follows: surgery 88%, SABR 39%, RRT 38% and BSC 13%. FEV₁(l) (mean% predicted, 95% CI) was significantly higher in patients receiving surgery (80.1, 77.3–82.9) compared to those patients receiving SABR (62.1, 56.0–68.3, $p < 0.001$ vs surgery), RRT (62.7, 54.2–71.3, $p < 0.001$ vs surgery) and BSC (56.4, 49.8–63.0, $p < 0.001$ vs surgery). Similarly gas transfer was significantly higher in the surgical patients compared to the other three groups.

For stage I lung cancer patients over the age of 75, the proportion of patients SABR rose from 0% in 2008 to 32.1% in 2011. Overall numbers of patients aged over 75 receiving BSC decreased over the four years; 49%, 45.5%, 38.6% and 24.4% for 2008–2011 respectively.

Conclusion The introduction of SABR has led to a significant increase in overall radical treatment rates for patients with stage I lung cancer, without resulting in a sustained reduction in surgical resection rates. Patients undergoing SABR and RRT have worse lung function and performance status than those undergoing surgery.

S110 EXPERIENCE WITH SUSPECTED CANCER REFERRALS FROM THE UK LUNG SCREEN TRIAL

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