**Session I: Brompton**  
**MONDAY, 27 MAY 2013**  
**08:30 – 10:30**

**B-001**  
**PROPENSITY SCORE-MATCHED ANALYSIS OF STAGE I-II NON-SMALL CELL LUNG CANCER TREATED BY VIDEO-ASSISTED THORACOSCOPIC LOBECTOMY OR STEREOTACTIC ABLATIVE RADIOTHERAPY**  
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**Objectives:** Video-assisted thoracoscopic surgery (VATS) lobectomy is often used to treat operable patients with stage 1-2 non-small cell lung cancer (NSCLC), but stereotactic ablative radiotherapy is not infrequently employed. We performed a propensity score-matched analysis to compare treatment-related complications. VATS lobectomy data from 6 hospitals was retrospectively accessed; stereotactic ablative radiotherapy data was obtained from a single institution database. Patients were matched using propensity scores based on cTNM-stage, age, gender, Charlson comorbidity score, pulmonary function tests and performance score. Clinical staging was done according to national guidelines and included 18FDG-PET and surgical and/or endoscopic mediastinal staging. Eighty-six VATS and 527 stereotactic ablative radiotherapy patients were matched blinded to outcome (1:1 ratio, caliper distance 0.025). Treatment-related complications were scored according to Common Terminology Criteria for Adverse Events. Locoregional failure was defined as recurrence in/adjacent to the planning target volume/surgical margins, ipsilateral hilum or mediastinum. Recurrences were either biopsy-confirmed or had to be PET-positive and reviewed by a tumour board.

**Results:** The matched cohort consisted of 64 patients treated by stereotactic ablative radiotherapy and 64 patients treated by VATS lobectomy, with median follow-up of 30 and 16 months, respectively. Unforeseen N1 and/or N2 disease was detected in 12 operated patients (19%), 8 of these received adjuvant treatment. Treatment-related complications \(\geq \)grade 3 developed in 23% of VATS patients and 6% of stereotactic ablative radiotherapy patients. Locoregional control rates with stereotactic ablative radiotherapy were superior compared to VATS lobectomy at 1 and 3 years (96.8% and 93.3% vs 86.9% and 82.6%, respectively, \(P = 0.04\)). Distant recurrences and overall survival were not significantly different.

**Conclusions:** This retrospective analysis found a superior locoregional control after stereotactic ablative radiotherapy compared to VATS lobectomy, but overall survival did not differ. Our findings support the need to compare both treatments in a randomized controlled trial.

**Disclosure:** All authors have declared no conflicts of interest.