VIDEO-ASSISTED THORACOSCOPIC LOBECTOMY IS ASSOCIATED WITH IMPROVED SHORT-TERM AND LONG-TERM OUTCOMES COMPARED TO OPEN LOBECTOMY FOR C-Stage I NON-SMALL CELL LUNG CANCER: A PROPENSITY-MATCHED ANALYSIS OF 963 CASES

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Objectives: This study aimed to evaluate both short-term and long-term outcomes over a 10-year period of a large cohort of consecutive patients with clinical stage I non-small cell lung cancer (NSCLC) that underwent either thoracoscopic (VATS-L) or open lobectomy (OPEN-L).

Methods: Patients with c-stage I NSCLC without preoperative treatment were included. Univariable, multivariable and propensity-matched analyses were performed on an intention-to-treat basis.

Results: VATS-L was performed in 307 (32%) patients and OPEN-L in 656 (68%). Twenty-two (7%) patients underwent conversion to open. Fewer patients in the VATS-L group had pT2 tumours compared to the OPEN-L group (39% vs 48%, \( P = 0.012 \)) and fewer patients had squamous cell carcinoma (26% vs 18%, \( P = 0.006 \)). These differences resolved with propensity matching. VATS-L was associated with reduced overall and pulmonary morbidity, atrial arrhythmias, chest tube duration and hospitalization. Mortality was 0.3% and 1.4%, for VATS-L and OPEN-L groups (\( P = NS \)). In unmatched analysis 5-year survival favoured VATS-L (78% vs 68% \( P = 0.007 \)), however, propensity matched analysis showed only a trend toward improved survival with VATS-L (78% vs 73% \( P = 0.071 \)). Multivariable analysis revealed VATS-L (HR 0.64), male sex (HR 1.43), Zubrod performance status (HR 3.42), and increasing age (HR 1.04) to be independent predictors of survival.

Conclusions: VATS lobectomy is associated with less perioperative morbidity compared to open lobectomy for clinical stage I NSCLC. There was a trend towards improved 5-year survival in the VATS-L group, which should be confirmed by larger prospective studies.

Disclosure: D. Rice: Paid consultant for Olympus America, Inc. All other authors have declared no conflicts of interest.