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POSTOPERATIVE PULMONARY COMPLICATIONS AND PHYSIOTHERAPY REQUIREMENTS AFTER OPEN THORACOTOMY VERSUS VATS LOBECTOMY: A PROPENSITY SCORE-MATCHED ANALYSIS

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Introduction Video-assisted thoracoscopic surgical (VATS) lobectomy is increasingly used for curative intent lung cancer surgery compared to open thoracotomy due to its minimally invasive approach and associated benefits. However, the effect of the VATS approach on postoperative pulmonary complications (PPC), rehabilitation and physiotherapy requirements is unclear; our study aimed to use propensity score matching to investigate this.

Methods Between January 2012 and January 2016 all consecutive patients undergoing lobectomy via thoracotomy or VATS were prospectively observed. Exclusion criteria included VATS converted to thoracotomy, re-do thoracotomy, sleeve/bi-lobectomy and tumour size >7 cm diameter (T3/T4). All patients received physiotherapy assessment on postoperative day 1 (POD1), and subsequent treatment as deemed appropriate. PPC frequency was measured daily using the Melbourne Group Scale.¹ Postoperative length of stay (LOS), high dependency unit (HDU) LOS, intensive therapy unit (ITU) admission and in-hospital mortality were observed. Propensity score matching (PSM) was performed using previous identified PPC risk factors (age, ASA score, BMI, COPD, current smoking) and lung cancer staging.

Results Over 4 years 736 patients underwent lobectomy with 524 remaining after exclusions; 252 (48%) thoracotomy and 272 (52%) VATS cases. PSM produced 215 matched pairs. VATS approach was associated with less PPC (7.4% Vs 18.6%; $p < 0.001$), shorter median LOS (4 days vs 6; $p < 0.001$), and a shorter median HDU LOS (1 day vs 2; $p = 0.002$) (Table 1). Patients undergoing VATS required less physiotherapy contacts (3 Vs 6; $p < 0.001$) and reduced therapy time (80 min vs 140; $p < 0.001$). More patients mobilised on POD1 (84% vs 81%; $p = 0.018$), and significantly less therapies to treat sputum retention and lung expansion were required ($p < 0.05$).

Abstract S63 Table 1 Postoperative outcomes following open thoracotomy versus VATS.

	Thoracotomy (n = 215)	VATS (n = 215)	p value
PPC (%)	40 (18.6)	16 (7.4)	<0.001
Median Hospital LOS (IQR)	6 (4)	4 (3)	<0.001
Median HDU LOS (IQR)	2 (2)	1 (1)	0.002
ITU admission (%)	9 (4.2)	6 (2.8)	0.599
Hospital mortality (%)	5 (2.3)	3 (1.4)	0.724

VATS, video-assisted thoracoscopic surgery; PPC, postoperative pulmonary complication; LOS, length of stay; HDU, high dependency unit; ITU, intensive therapy unit.

Conclusions This study demonstrates that patients undergoing VATS lobectomy developed less PPC and had improved associated outcomes compared to thoracotomy. Patients were more

mobile earlier, required half the physiotherapy resources, having fewer pulmonary and mobility issues.

REFERENCE

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RATES AND SITES OF RECURRENCE FOLLOWING RADICAL TREATMENT OF STAGE I LUNG CANCER

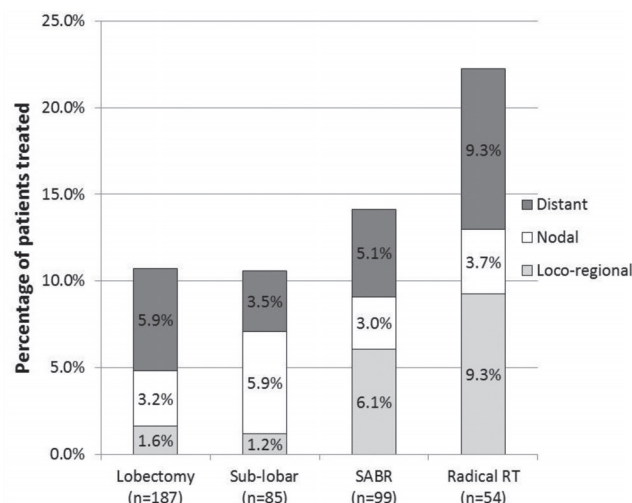
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Introduction Lobectomy is the treatment of choice for medically operable patients with stage I lung cancer, with the best reported overall survival and lowest recurrence rates. Patient selection influences outcomes as demonstrated by wide variations in outcomes and reported recurrence rates for all radical lung cancer treatments. Some studies report recurrence rates following Stereotactic Ablative Radiotherapy (SABR) that are comparable to lobectomy. We aim to analyse the rates and site of recurrence in our patients who were radically treated for stage I lung cancer.

Methods All patients with two years follow-up after radical treatment for stage I lung cancer (2008–2013) were included. Retrospective review of electronic patient records to identify outcomes, including the presence and site of any recurrence.

Results 425 patients were identified. Treatment modalities included lobectomy 187 (44.0%), SABR 99 (23.3%), sub-lobar resection 85 (20.0%) and radical radiotherapy 54 (12.7%). There was pathological confirmation in 56.6% of SABR and 63.0% of radical radiotherapy.



Abstract S64 Figure 1 Rate and site of recurrence at 2 years

Patients treated with surgical resection were younger (mean age 69.0 vs 75.9 years, $p < 0.001$) and had a better performance status (PS0–1 83.5% vs 37.9%, $p < 0.001$), although larger tumours (T2a 53.4% vs 31.3%, $p = 0.001$). Mortality without cancer recurrence at two years was lower following surgery than non-surgical treatment (10.7% lobectomy and 11.8% sub-lobar resection vs 27.3% SABR and 25.9% radical radiotherapy, $p < 0.001$).