



Neoadjuvant target therapy followed by video-assisted thoracoscopic surgery lobectomy plus lymph node clearance for locally advanced lung cancer

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Introduction

Although there is no robust evidence yet to support the application of EGFR-TKI as a neoadjuvant therapy for EGFR-mutant non-small cell lung cancer (NSCLC), successful case series have been reported previously in the literature. We demonstrate here one of our successful cases in which the patient proceeded to definitive surgery after his locally advanced NSCLC was significantly down-staged by EGFR-TKI.

Operative technique

The surgical technique was practically the same as routine video-assisted thoracoscopic surgery (VATS) and lobectomy plus mediastinal lymph node dissection. Indeed, the lung lesion and the associated lymphadenopathy responded well to EGFR-TKI by subsiding dramatically; this might have potentially been responsible for the conversion from palliative to radical surgery. We suggest using a three- or four- port VATS approach, in which the surgical field can be maximally exposed. When the surgical planes are clearly displayed, it is less likely that the important structures including vessels and nerves can be iatrogenically injured. The authors prefer to perform the anatomical lobectomy from the front to the back. In the right upper lobectomy which is demonstrated in the video, we divided the right



Figure 1 Neoadjuvant target therapy followed by VATS lobectomy plus lymph node clearance for locally advanced lung cancer (1). VATS, video-assisted thoracoscopic surgery.

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upper lobe branch of the superior pulmonary vein first, followed by the upper lobe branches from the pulmonary artery. Numerous residue inter-lobar and para-bronchial lymph nodes often needed to be dissected out before a clear anatomy could be identified. The fissure could be completed before or after the relevant bronchus was divided, depending on the accessibility. Finally, definitive en bloc resection of ipsilateral hilar and mediastinal lymph nodes is essential for accurate staging and therapeutic purpose (*Figure 1*).

Comments

The patient in our case has experienced almost 3 years of disease-free survival since surgery, which we consider a great success in the setting of multi-disciplinary treatment. Surely, not all cases can achieve such excellent outcome, but it is worthwhile to explore and select the right patients who can benefit from neoadjuvant target therapy followed by definitive surgery. As attested to by our preliminary experience, radical VATS lobectomy with nodal dissection after neoadjuvant EGFR-TKI is safe and feasible.

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Footnote

Conflicts of Interest: The authors have no conflicts of interest to declare.

Informed Consent: Written informed consent was obtained from the patient for publication of this manuscript and any accompanying images.

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