

Total anatomic vascular dissection for lobectomy by using only energy devices

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Background: The introduction of ultrasonic energy into surgical dissecting devices was a technological breakthrough in minimally invasive surgery in the 1990s.

Methods: Nowadays, the energy devices are used very often during video-assisted thoracoscopic surgery (VATS) especially for lymph node dissection and for transection of small pulmonary vessels. However these devices can be used for hilar anatomic dissection in expert hands.

Results: In this video we show a right lower lobectomy performed by uniportal VATS in where the anatomic dissection of artery, vein and bronchus was performed by only using an ultrasonic energy device (Harmonic scalpel). The total surgical time for lobectomy was 30 minutes and 20 minutes for lymph node dissection.

Conclusions: The use of energy devices for vascular and bronchial dissection during lobectomy is feasible and safe when performed by expert thoracoscopic surgeons.

Keywords: Energy devices; anatomic dissection; lobectomy; uniportal video-assisted thoracoscopic surgery (VATS); vascular dissection

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The introduction of ultrasonic energy into surgical dissecting devices was a technological breakthrough in minimally invasive surgery in the 1990s. Nowadays, the modern ultrasonic coagulation shears are used very often during video-assisted thoracoscopic surgery (VATS). The most frequent use is for the lymph node dissection but these devices can be used even for vascular dissection. Some authors recommend avoiding the use of ultrasound energy near vascular structures to prevent thermal injuries from ultrasonic coagulation shears. However, energy devices are very safe in expert hands and the vascular dissection can be performed safely. These devices offer cutting, coagulation, dissecting, and grasping all in a single system. The versatility and safety profiles make ultrasonic energy a compelling technology to consider for VATS lobectomy.

In this video we show an uniportal VATS right lower lobectomy in where the total anatomic hilar dissection was performed by using only ultrasound energy devices (*Figure 1*).



Figure 1 Total anatomic vascular dissection for lobectomy by using only ultrasound coagulation shears (1).

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Footnote

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