Radical resection of right upper lung under complete video-assisted thoracoscopic surgery

Dongchun Ma, Jieyong Tian, Xianliang Jiang

Department of Thoracic Surgery, Anhui Provincial Hospital, Hefei 230001, China

J Thorac Dis 2013;5(S3):S291-S292. doi: 10.3978/j.issn.2072-1439.2013.08.66

Introduction

As an emerging technology in recent years, complete video-assisted thoracoscopic surgery (c-VATS) lobectomy, a jewel in the crown of minimally invasive thoracic surgery, represents the supreme achievement of thoracoscopic surgery. The technical essentials include anatomic lobectomy for lung cancer completely under thoracoscopy without retracting the ribs, following the principle of tumor-free margins, in conjunction with hilar and mediastinal lymph node dissection. Although an additional 3-5 cm incision is required in the c-VATS, the purpose is to accommodate instruments and removed specimens, rather than serving as a channel for operation under direct vision. No dissecting large chest wall muscles not only greatly diminishes tissue injury, but also saves the time for opening and closing the chest, so the length of operation is not prolonged. c-VATS fully displays the advantages of minimally invasive surgery. With less injury, quicker recovery, relieved pain, and shorter hospital stay, c-VATS lobectomy has a comparable effect of lymph node dissection to thoracotomy in early lung cancer, and it is an ideal approach for certain benign lung diseases and early peripheral lung cancer.

Surgical techniques

In this case, the entire operation was performed under double-lumen endotracheal and intravenous anesthesia. The patient was lying on the unaffected side with a pillow under the armpit. After routine disinfection and draping, a 1.5-cm observation port is created at the 7th intercostal space on the midaxillary line, a 3-cm working port at the 4th intercostal space on the anterior axillary line without a retractor in the intercostal space, and an approximately 2.0-cm auxiliary port at the 8th or 9th intercostal space on the subscapularis line (Video 1).

Video 1. Radical resection of right upper lung under complete video-assisted thoracoscopic surgery.

Pull the upper right lung backward with oval forceps through the auxiliary port to expose the anterior part of the right hilum. Insert a suction device through the auxiliary port to assist the electrotome through the working port in freeing the right superior pulmonary vein, which is then cut by a stapler with 2.5 mm reloads.

After dividing the right superior pulmonary vein, expose the trunk of the right pulmonary artery. Open the artery sheath, choose a linear stapler with 2.5 or 2.0 mm reloads to close each branch of the right superior pulmonary artery, depending on the thickness, one at a time. Alternatively, suture ligature or Hemolock clips can also be used. Similarly, free the right superior bronchus with the electrotome and suction device, and cut by a stapler with 4.1 or 4.8 mm reloads. Finally, suture the interlobar fissure by a stapler with 3.5 mm reloads to finish the treatment of the horizontal fissure and oblique fissure. Place a latex glove in the chest cavity, then insert two pieces of long hemostatic forceps into the working port and a piece of long hemostatic forceps into the auxiliary port to hold the glove cuff to form an isosceles

Corresponding to: Dongchun Ma, MD. Department of Thoracic Surgery, Anhui Provincial Hospital, Hefei 230001, China. Email: madongchun126@126.com.

Submitted Jun 21, 2013. Accepted for publication Aug 23, 2013.
Available at www.jthoracdis.com

ISSN: 2072-1439

triangle. Place oval forceps through the working port to wrap the removed lobe in the glove, and then lift the cuff to retract the whole glove with the specimen out of the working port. Send the intraoperative specimen for frozen pathology.

Dissect the stations 2, 3, 4, 7, 8, 9 and 10 lymph nodes. Open the mediastinal pleura over the lymph nodes with the electrotome, and lift the lymph nodes and their surrounding fat tissues with lymph node forceps, dissect the target lymph nodes and surrounding fat tissues with the electrotome and suction device. After complete hemostasis, inject sterile water for leakage testing of the bronchial stump and the pulmonary resection margin. Upon confirmation of a negative result, a drainage tube was placed through the observation port to the top of the chest.

Cite this article as: Ma D, Tian J, Jiang X. Radical resection of right upper lung under complete video-assisted thoracoscopic surgery. J Thorac Dis 2013;5(S3):S291-S292. doi: 10.3978/j.issn.2072-1439.2013.08.66

Acknowledgements

Disclosure: The authors declare no conflict of interest.