VATS Lobectomy Video Contest
in Asia-Pacific Region, 2008 YOKOHAMA

Hosted by The Japan Society for Thoracoscopic Chest Surgery
Sep. 4, 2008

Greeting

Welcome to YOKOHAMA!
Welcome for joining our VATS lobectomy Video Contest in Asai-Pacific Region 2008!

Representing the Japan Society for Thoracoscopic Chest Surgery which is a member of the Japan Society for Endoscopic Surgery we would like to welcome all of you.
We match forces to promote and learn respiratory thoracoscopic surgery in Asia and the Pacific area.
We gather here today bringing operative videos to share technology, knowledge and skills, to enable further significant developments in this field.
YOKOHAMA NIGHT by sponsorship of WCES is planned after the end of the session.
Let us all debate and have fun.
We thank the companies of Autosuture, CSL Behring, Johnson & Johnson, Olympus which supported on promoting this session.
Also, we thank WCES and Chairperson Seigo Kitano for the cooperation and support.

Sept. 4, 2008

Toshiaki Morikawa

Organization of This Meeting

Hosted by **Japan Society for Thoracoscopic Chest Surgery**

Supported by **8th World Congress of Endoscopic Surgery,**
& 21st Japan Society for Endoscopic Surgery

Secretary General: Toshiaki Morikawa (Tokyo Japan)

Vice Secretary General: Hiroshi Date (Kyoto Japan), Tadasu Kohno (Tokyo Japan)

Chairmen: Hiroshi Date (Kyoto Japan), Tadasu Kohno (Tokyo Japan)

Invited Faculty: HP Liu (Taiwan)

Referees: Volunteers among councilors of Japan Society for Thoracoscopic Chest Surgery

Supporting enterprises: Autosuture, CSL Behring, Johnson & Johnson, Olympus
(Alphabetical order)

Secretary Office: **Department of Surgery**
Jikei University School of Medicine
3-25-8 Nishi-shimbashi, Minato-ku,
Tokyo, 105-8461, JAPAN
Phone:81-3-3433-1111, ext. 3410
FAX: 81-3-3432-0861
e-mail : tcs2006@jikei.ac.jp

Presentaiton outline

All presentations will be done in video forma using PCs.

Presentation time is for 10 min. followed by 5 min of discussion.

All the PCs are to be brougt to the prese tation room by him/she self and connected to the projector via 15 pins conector cord.

There wil be a room for pre-view using the same PC.

The presentation content will be scored by referees.

The scoring standards are

- **a. operational skills**
- **b. presentational impression**
- **c. operational indication(adequacy)**
- **d. instrumental(device) adequacy**
- **e. discussion**
- **f. total overall presentation**

The contestant with the excellent score will be commended.

Schedule

Venue: Pacifico YOKOHAMA　Conference Center rm# 501

Date: Sep. 4, 2008

Time: 16:40- 19:30

16：40　commencement, welcome greeting

16：45 Presentation　#1　**Our standard procedure of Video-assisted thoracic surgery (VATS)lobectomy for primary lung cancer**

Michihiko Tajiri

Department of general thoracic surgery, Kanagawa Cardiovascular and Respiratory Center

17:00 Presentation　#2　**RIGHT UPPER LOBECTOMY WITH LYMPHADENECTOMY BY VIDEO-ASSISTED THORACIC SURGERY**

Sugiura Y, Takeuchi K, Kakizaki T, Kaseda S

Dept. Thoracic Surgery, National Hospital Organization Kanagawa National Hospital

17:15 Presentation　#3　**VATS lobectomy in Seoul National University Bundang Hospital Lung Cancer**

Sanghoon Jheon, Hyeong Ryul Kim, Sook Whan Sung

Seoul National University Bundang Hospital, Korea

17:30 Presentation　#4　**Thoracoscopic Left Upper Lobectomy: Bronchial Dissection Technique Prior to Pulmonary Artery Dissection**

Shunsuke Endo, Kenji Tetsuka, Tomoyuki Nakano, Hiroyoshi Tsubochi, Shin-ichi Otani, Hiroyoshi Tsubochi, Tetsuya Endo, Yasunori Sohara

Department of General Thoracic Surgery, Jichi Medical University and Saitama Medical Center

17:45 Presentation　#5　**The entirely video-thoracoscopic approach to major thoracic resections: Use of upright / inverted double video-monitors may truly change your view**

Takashi Suda, Hiroshi Sugimura, Yuka Kitamura, Sachiko Tochii, Yoshinobu Hattori

Division of General Thoracic Surgery, Department of Surgery, Fujita Health University

18:00 Presentation #6 **VATS lobectomy using bipolar scissors under monitor-view by flexible scope**

Yoshinori Yamashita, Hidenori Mukaida, Wataru Takiyama
Respiratory Surgery, Hiroshima City Asa Hospital

18:15 Presentation #7 **VATS lobectomy using LigaSure-V in mediastinal lymph node dissection**

Nozomu Iwashiro
National Hospital Organization Hakodate Hospital

18:30 Presentation #8 **VATS Lobectomy for lung cancer with lymphnode dissection**

Naoko Imanishi, Fumitsugu Kojima, Kazumichi Yamamoto, Katsunari Matsuoka, Mitsuhiro Ueda, Yoshihiro Miyamoto
NHO Himeji Medical Center Department of General Thoracic Surgery

18:45 Presentation #9 **Complete mediastinal lymph node dissection during VATS lobectomy for Lung Cancer**

Hyun-Sung Lee, Moon Soo Kim, Jong Mog Lee, Jae Ill Zo
National Cancer Center, Korea

19:00 Faculty Presentation

VATS Lobectomy: The Chang Gung experience

Hui-Ping Liu
Chang Gung Memorial Hospital, Taiwan

19:15 Review Speech by Prof. Liu, marking
～19:30 commendation, closing

Presentation #1

Title **Our standard procedure of Video-assisted thoracic surgery (VATS) lobectomy for primary lung cancer**

Presenter Michihiko Tajiri

Institute Department of general thoracic surgery, Kanagawa Cardiovascular and Respiratory Center

Abstract We here present the video of VATS lobectomy routinely performed in our hospital.

Approach: A 3-cm skin incision is made along the axillar 4th intercostal space. Additional three ports are inserted from the other sites (One window + three ports method). Surgery is conducted under monitoring vision only.

Procedure: The procedure could be performed in the following order: for right upper lobectomy (1) Interlobar separation; (2) superior pulmonary vein, (3) superior trunk of pulmonary artery; (4) lobar bronchus; for left upper lobectomy (1) Interlobar separation and Interlobar pulmonary artery; (2) superior pulmonary vein, (3) hillar pulmonary artery; (4) lobar bronchus; for lower lobectomy (1) Interlobar separation; (2) lower pulmonary artery; (3) pulmonary ligament; (4) inferior pulmonary vein; and (5) lobar bronchus.

Treatment of Vessels: Pulmonary artery and vein are basically treated with endostaplers of 2.0 or 2.5 mm tall staples. Thin vessels are ligated by hand-made knot-pusher.

Treatment of Bronchus: Lobar bronchus is usually treated with endostapler of 4.8 mm tall staples.

Interlobar separation: We usually detach the parenchyma from bronchus or pulmonary artery in the center of fissure at first, and staple an interlobar fissure with endostapler.

Presentation #2

Title **RIGHT UPPER LOBECTOMY WITH LYMPHADENECTOMY BY VIDEO-ASSISTED THORACIC SURGERY**

Presenter Sugiura Y, Takeuchi K, Kakizaki T, Kaseda S

Institute Dept. Thoracic Surgery, National Hospital Organization Kanagawa National Hospital

Abstract We present the VATS technique with right upper lobectomy and lymphadenectomy in a case of lung cancer.

A thoracoscope was introduced through the incision in the seventh intercostal space, and a 7-cm mini-thoracotomy was made in the fourth intercostal space. The pulmonary vein and the superior trunk of pulmonary artery were transected with a vascular endostapler. Incomplete interlobar fissure was divided by four firings of an endostapler. A^2b was ligated with silk threads and separated with a harmonic scalpel. Bronchus was transected with an endostapler, and the stump was sutured with PDS sutures. Azygos vein was sutured with a silk thread, and transected with a vascular endostapler. Lymph nodes were dissected with a harmonic scalpel, and the wound was closed after insertion of a thoracic drain from the wound from which a thoracoscope had been introduced.

Presentation #3

Title **VATS lobectomy in Seoul National University Bundang Hospital Lung Cancer**

Presenter Sanghoon Jheon, Hyeong Ryul Kim, Sook Whan Sung

Institute Seoul National University Bundang Hospital, Korea

In our institution, under single lung ventilation, two ports and one access window was made for VATS lobectomy. A10 mm trocar for the 10 mm, 30 degree thoracoscope was placed through the seventh or eighth intercostals space in the midaxillary line. Another 5 or 10 mm trocar was placed at sixth intercostals space at posterior axillary line. A less than 5 cm incision was made in the fifth intercostal space from anterior axillary line toward the midclavicular line and then the access window was retracted by a polyurethane wound retractor without rib spreading. Anatomic dissections with individual ligation of the vessels and bronchi were done using endoscopic instruments and staplers. Usually, pulmonary veins were divided first using endoscopic staplers with 2.5 mm cartridges and then pulmonary arteries using clipping instruments or endoscopic staplers with 2.5 or 2.0 mm cartridges. A lobar bronchus was dissected and divided using endoscopic staplers with4.8 mm cart! ridges. The Resected lung specimen was lapped and retrieved through the access window. Dissections of mediastinal lymph nodes were done. Usually one 24 french chest tube was placed in thoracic cavity.

Presentation #4

Title **Thoracoscopic Left Upper Lobectomy: Bronchial Dissection Technique Prior to Pulmonary Artery Dissection**

Presenter Shunsuke Endo, Kenji Tetsuka, Tomoyuki Nakano, Hiroyoshi Tsubochi, Shin-ichi Otani, Hiroyoshi Tsubochi, Tetsuya Endo, Yasunori Sohara

Institute Department of General Thoracic Surgery, Jichi Medical University and Saitama Medical Center

Abstract **Background:** Dissections of anterior segmental arteries anatomically crossing over the upper segmental bronchus during left upper lobectomy can sometimes cause life-threatening vascular injuries.

Patients and technique: Eighteen patients with clinical stage I non-small cell lung cancer underwent thoracoscopic left upper lobectomy between August 2006 and July 2008, using a bronchial dissection technique prior to anterior and apicoposterior pulmonary artery dissections after dissections of the superior pulmonary vein and lingular segmental arteries.

Results: The operation time ranged from 75 to 190 minutes (average, 133 ± 35 minutes). Operative blood loss ranged from 10 to 400 ml (average, 119 ± 115 ml). Postoperative complications were left recurrent nerve palsy in 1 patient and prolonged air leakage in 2 patients.

Conclusions: Bronchial dissection prior to upper segmental pulmonary artery dissections can widen the surgical space around the left main pulmonary artery and enable safe pulmonary arterial dissection and subsequent nodal dissection during thoracoscopic left upper lobectomy.

Presentation #5

Title **The entirely video-thoracoscopic approach to major thoracic resections: Use of upright / inverted double video-monitors may truly change your view**

Presenter Takashi Suda, Hiroshi Sugimura, Yuka Kitamura, Sachiko Tochii, Yoshinobu Hattori

Institute Division of General Thoracic Surgery, Department of Surgery, Fujita Health University

Abstract The VATS (video-assisted thoracoscopic surgery) approach is being selected for major thoracic resections with increasing frequency and encouraging results. However, there is no consensus as whether to perform the procedure entirely through the thoracoscopic view or if provide some direct visualization of the surgical field through a limited thoracotomy. Use of a mini-thoracotomy allows utilization of traditional surgical instruments, and may facilitate easier transition from a full thoracotomy in the learning phase, due to similar direct visualization by the surgeon. However, surgical flexibility is sacrificed naturally because of limited access as compared to the larger thoracotomy. On the other hand, the entirely thoracoscopic approach allows the surgeon and all others in the surgical field to share the same view. The surgical field is often observed and approached in a uniquely different way from conventional thoracotomy. We have adopted an entirely video-thoracoscopic approach with use of an upright / inverted (double) assistants' side video-monitor. As this monitor setting allows 360° visualization throughout the thorax without disorientation of the horizontal axis, it provides flexibility to port placement and ease of instrumentation both by the surgeon and the assistants. This approach fully augments the uniqueness of the thoracoscopic approach, and may be diversely and safely adapted to a wide range of major thoracic resections.

Presentation #6

Title **VATS lobectomy using bipolar scissors under monitor-view by flexible scope**

Presenter Yoshinori Yamashita, Hidenori Mukaida, Wataru Takiyama

Institute Respiratory Surgery, Hiroshima City Asa Hospital

Abstract From April 2003, we performed VATS lobectomy via a pure thoracoscope view (Pure VATS) in 84 cases with cStageIA non-small cell lung cancer. The operative field of view was accessed strictly via a monitor, thus avoiding spreading intercostal space. A flexible thoracoscope, which can contribute more resolved view, was inserted through the eighth or ninth intercostal space. A 2 to 4 cm minithoracotomy was made by cutting only intercostal muscle without the use of a rib spreader. The mini-thoracotomy and three other 0.5 to 1.0 cm ports were added. The operator usually placed on the front of the patients and mini-thoracotomy wound enables the operator's right hand to hold the bipolar scissors which is useful for cutting, coagulating and dissecting without switching instruments. The operator's left hand is usually holding pick-up through 5mm port. Systematic mediastinal lymph node dissection is performed in the same way as open thoracotomy. Only difference from open thoracotomy is the direction of operator's eyes to the monitor. A recent case of left upper lobectomy will be presented.

Presentation #7

Title **VATS lobectomy using LigaSure-V in mediastinal lymph node dissection**

Presenter Nozomu Iwashiro

Institute National Hospital Organization Hakodate Hospital

Abstract A small, 3-cm skin incision is made anterior to the latissimus dorsi muscle in the 5th intercostal space. The minithoracotomy is opened and protected with a silicon rubber instrument (Lap-Protector; Hakko; Japan). A 10-mm trocar for the optics (10-mm rigid scope with a 30-degree lens) is inserted in the 7th intercostal space on the midaxillary line. And a port posterior to the inferior angle of the scapula is covered with Lap-Protector. A right upper lobectomy is shown: a) division of posterior fissure; b) inter lobar branch of PA; c) superior trunk of the pulmonary vein; d) division of minor fissure; e) mediastinal branches of PA; f)upper lobe bronchus by endoGIA Staplers, and some small vessel branches are ligated, sutured or clipped. LigaSure V(TM) is used for mediastinal lymph node dissection. The LigaSure V is able to divide tissues and seal blood/ lymph vessels and cut tissues without changing instruments. There was no radial thermal damage to vena cava or bronchus.

Presentation #8

Title **VATS Lobectomy for lung cancer with lymphnode dissection**

Presenter Naoko Imanishi, Fumitsugu Kojima, Kazumichi Yamamoto, Katsunari Matsuoka, Mitsuhiro Ueda, Yoshihiro Miyamoto

Institute NHO Himeji Medical Center Department of General Thoracic Surgery

Abstract From 2000 to 2008, over 1200 patients underwent VATS major lung resections in our hospital. Our approach is as follows;

First, a camera window is made in the 7th intercostal space (ICS) on the mid axillary line and one doctor concentrates the camera work. Next, an incision for the assistant is made in the 6th ICS just posterior to the lower angle of the scapula. Then, an access window is placed along with the 4th intercostal line just anterior to the latissimus dorsi muscle for 3-cm. We set a Lap protector without a rib spreader. One video monitor is placed above the head of the patient, and all three doctors share this monitor. The operator stands facing the patient, and the assistant stands behind. They each use two instruments. To manipulate instruments accurately, we handle them supported at the window. We employ the same way of approach for the dissection of any lobes.

We will show our operation video of the right upper lobectomy and lymphnode dissection.

Presentation #9

Title **Complete mediastinal lymph node dissection during VATS lobectomy for Lung Cancer**

Presenter Hyun-Sung Lee, Moon Soo Kim, Jong Mog Lee, Jae Ill Zo

Institute National Cancer Center, Korea

Abstract

Introduction

The biggest concern regarding VATS lobectomy for lung cancer focuses on complete mediastinal lymph node dissection for oncologic management.

Methods

During right-sided VATS lobectomy, left-sided double lumen endotracheal intubation is applied. Open window is made about 2 to 5 cm in front of the scapula tip. Camera port is positioned at the 6th intercostal space and mid axillary line. Additional 10mm port is made in 4th ICS at the level of anterior axillary lines and 5mm port is made in 2nd ICS at the level of anterior axillary lines due to accurate paratracheal lymph node dissection. During left-sided VATS lobectomy, right-sided double lumen endotracheal intubation is applied for easy manipulation of the left main bronchus during lymph node dissection. I will talk about right and left-sided mediastinal lymph node dissection during VATS lobectomy.

Results

During right sided VATS lobectomy, right paratracheal and subcarinal lymph nodes can be achieved with en-bloc resection. Left-sided lymph node dissection during VATS lobectomy for lung cancer is more challenging due to anatomical reasons. Anterior approach to subcarinal and lower paratracheal lymph nodes leads en-bloc mediastinal lymph node dissection. Small vessel branches are controlled with ligasure.

Conclusion

During VATS lobectomy for lung cancer, complete mediastinal lymph node dissection is essential and can be performed.

Faculty Presentation

VATS Lobectomy: The Chang Gung experience

Hui-Ping Liu
Chang Gung Memorial Hospital, Taiwan