



**INCONTRO
E ASSEMBLEA**

VATS GROUP

**UPDATE DI TECNICA
E TECNOLOGIA NELLE
RESEZIONI ANATOMICHE
TORACOSCOPICHE**

30 MARZO 2017

PADOVA

***Rapporto costo-beneficio
nella riduzione del
numero di accessi nella VATS
lobectomy
PROS & CONS***

Dott. Alessandro GONFIOTTI
Chirurgia Toracica - AOU Careggi
Firenze

BACKGROUND

Brief Clinical Report

Videoendoscopic Pulmonary Lobectomy for Cancer

Giancarlo Roviato, M.D., Carlo Rebuffat, M.D., Federico Varoli, M.D.,
Contardo Vergani, M.D., Claudio Mariani, M.D., and Marco Maciocco, M.D.

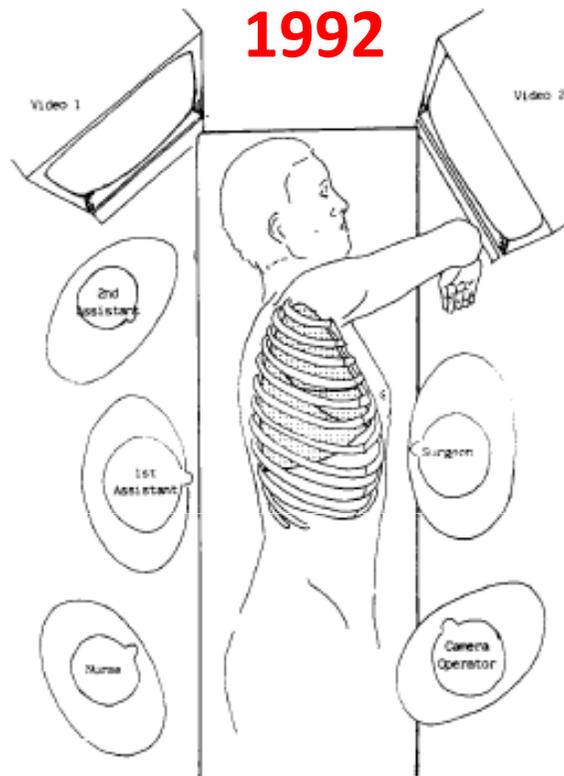
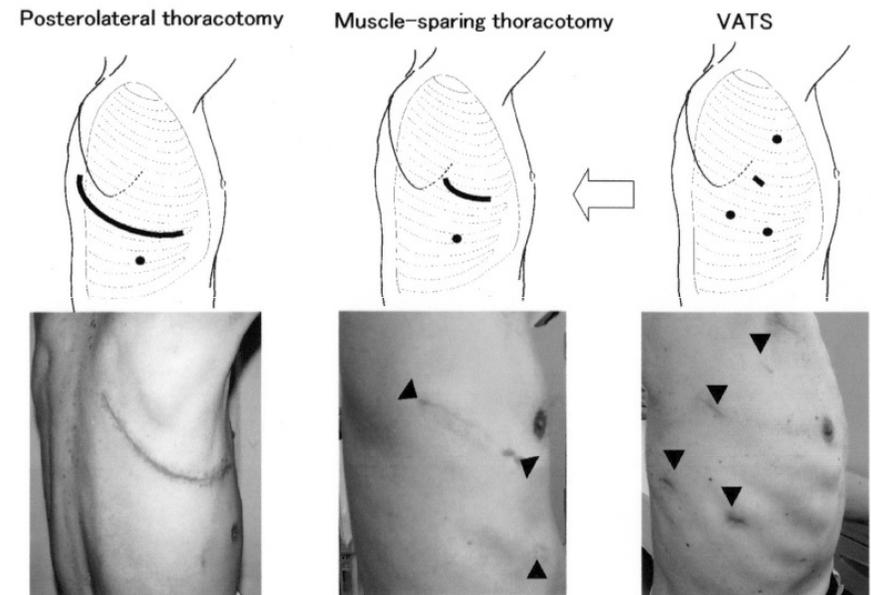
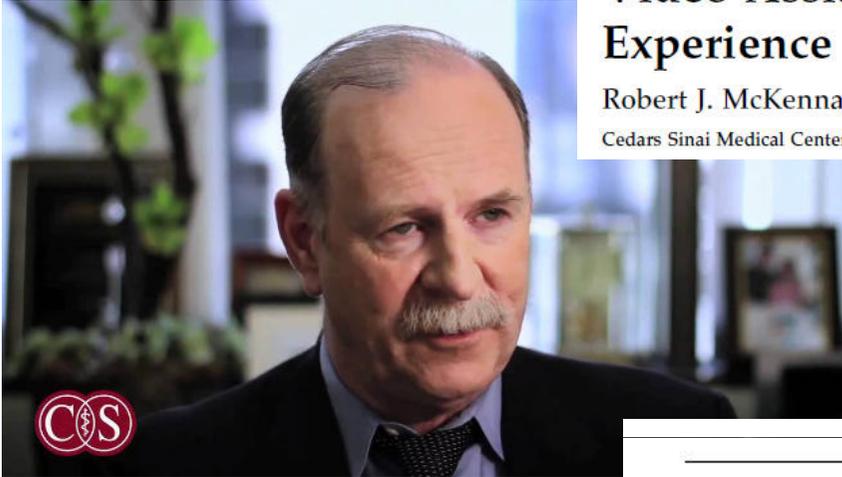


FIG. 1. Position of the operating team and monitors during videoendoscopic pulmonary lobectomy.





Video-Assisted Thoracic Surgery Lobectomy: Experience With 1,100 Cases

Robert J. McKenna, Jr, MD, Ward Houck, MD, and Clark Beeman Fuller, MD
Cedars Sinai Medical Center, Los Angeles, California



Thoracoscopic Lobectomy

William R. Burfeind, MD, and Thomas A. D'Amico, MD



Video-assisted thoracoscopic lobectomy using a standardized three-port anterior approach - The Copenhagen experience

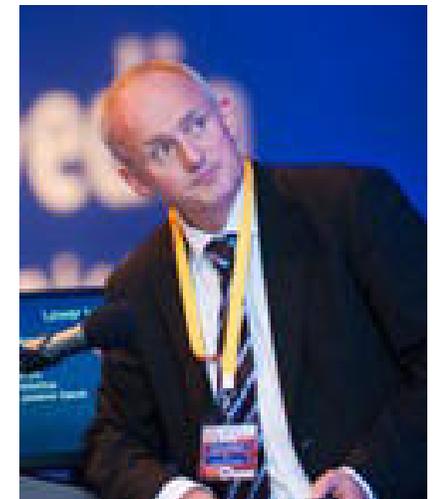
Henrik J. Hansen, René H. Petersen

Department of Cardiothoracic Surgery 2.15.2, Rigshospitalet, Copenhagen University Hospital, Denmark

Uniportal Video-Assisted Thoracoscopic Lobectomy: Two Years of Experience

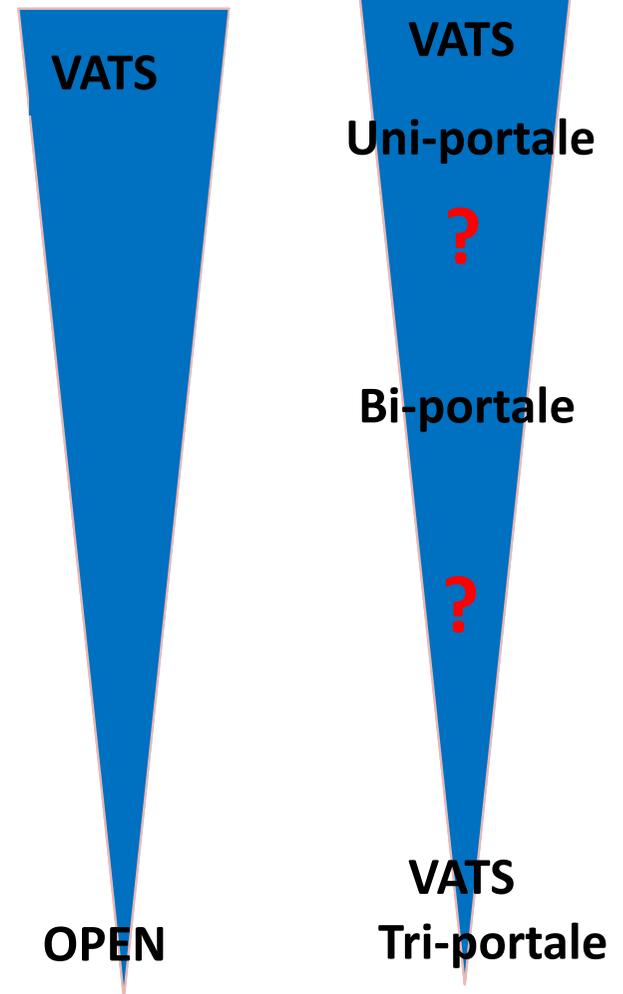
Diego Gonzalez-Rivas, MD, Marina Paradela, MD, Ricardo Fernandez, MD,
Maria Delgado, MD, Eva Feira, MD, Lucía Mendez, MD, Carlos Velasco, MD, and
Mercedes de la Torre, MD

Department of Thoracic Surgery, Minimally Invasive Thoracic Surgery Unit (UCTMI), and Department of Cardiac Surgery,
Coruña University Hospital, Coruña, Spain



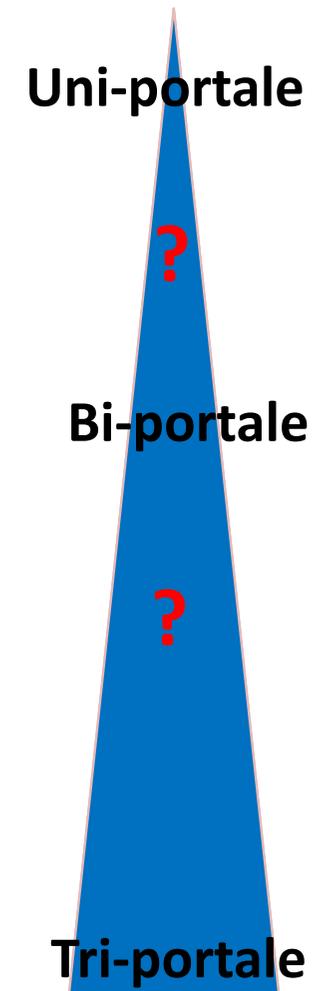
Tri / Bi vs Uni-portale: Benefici

- Minor trauma tissutale
- Minor tasso di complicanze
- Ospedalizzazione più breve
- Minori perdite ematiche
- Rapida ripresa delle attività quotidiane
- Miglior qualità di vita
- Agevola la chemioterapia adiuvante



Tri / Bi vs Uni-portale: Adeguatezza Oncologica

- **Lindoadenectomia**
 - Numero di stazioni
 - Numero di linfonodi
- **Recivida**
 - Locale
 - Loco-regionale
- **Sopravvivenza**





Uniportal VATS



Segmentectomy 2012
Lobectomy 2011

Pericardial Window & Mediastinal LN bx 2006
Pleurodesis 2005
Wedge resection 2004
Pleural diseases 2003
Sympathectomy 2002



Masters of Cardiothoracic Surgery

Double sleeve uniportal video-assisted thoracoscopic lobectomy for non-small cell lung cancer

Diego Gonzalez-Rivas, Maria Delgado, Eva Feira, Ricardo Fernandez

Department of Thoracic Surgery, Coruña University Hospital, Coruña, Spain
Correspondence to: Diego Gonzalez-Rivas, Department of Thoracic Surgery, Coruña University Hospital, Sabela 84, 15006 Coruña, Spain.
Email: diego.gonzalezrivas@sergas.es

Single-port video-assisted thoracoscopic lobectomy with pulmonary artery reconstruction

Diego Gonzalez-Rivas*, Maria Delgado, Eva Feira and Lucia Mendez

Department of Thoracic Surgery, Coruña University Hospital, Coruña, Spain

* Corresponding author. Department of Thoracic Surgery, Coruña University Hospital, Xubias 84, 15006 Coruña, Spain. Tel: +34-981179286; fax: +34-981179235; e-mail: diego.gonzalezrivas@sergas.es (D. Gonzalez-Rivas)

Received 18 May 2013; received in revised form 3 July 2013; accepted 12 July 2013

Uniportal video-assisted thoracoscopic bronchial sleeve lobectomy: First report

Diego Gonzalez-Rivas, MD, FECTS,^{a,b} Ricardo Fernandez, MD,^{a,b} Eva Feira, MD,^{a,b} and LuzDivina Rellan, MD,^c Coruña, Spain

Surg Endosc
DOI 10.1007/s00464-011-2127-x

VIDEO

Single-incision video-assisted thoracoscopic right pneumonectomy

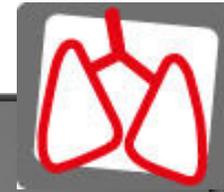
Diego Gonzalez-Rivas · Mercedes de la Torre · Ricardo Fernandez · Jose Garcia





Vats Group

Vats lobectomy italian registry



Vats Group

Atto costitutivo
ottobre 2013

Inizio attività registro
1 gennaio 2014

PRIVATE AREA

Username: !

Password:

Did you lose your username / password?

Please write an email at supporto@vatsgroup.it with "Lost credentials" as subject.

We'll send you back an email with your username / password as soon as possible.

Login

Pazienti arruolati
ad oggi > 4400



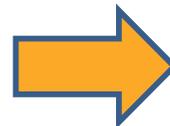
SOCIETÀ ITALIANA DI
ENDOSCOPIA TORACICA



SOCIETÀ ITALIANA DI
CHIRURGIA TORACICA

Quality
Check

3504 pazienti
eligibili



n = 281 U-VATS
(8,021%)

n = 3223 OTHERS
(91,979%)

TECNICA

TRI-PORTALE

1. Accesso di servizio (< 5 cm)
2. Accesso posteriore sotto visione
3. Accesso anteriore sotto visione



BI-PORTALE

1. Accesso di servizio (< 5 cm)
2. Secondo accesso sotto visione



UNI-PORTALE

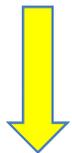
1. Unico Accesso di servizio (< 5 cm)

U-VATS vs 2/3 ports VATS

**ACCESSI: trauma di 1 solo
nervo intercostale**



dolore post-operatorio



parestesie persistenti



**Ripresa
funzionale**

U-VATS vs Bi/Tri Portale: aspetti Tecnici



ASSENZA DI TROCAR = MINOR COMPRESSIONE/DANNO DEL NERVO INTERCOSTALE

Bi/Tri Portale

Camera con trocar, nello spazio
Più confortevole per l'assistente



U-VATS

Camera nella parte posteriore dell'incisione
Tenuta in posizione dall'assistente, senza trocar



VATS Uni-portale: Vantaggi Tecnici



European Journal of Cardio-thoracic Surgery 40 (2011) e21–e28

EUROPEAN JOURNAL OF
CARDIO-THORACIC
SURGERY

www.elsevier.com/locate/ejcts

Video-assisted thoracic surgery lobectomy: 3-year initial experience with 200 cases

Diego Gonzalez*, Mercedes de la Torre, Marina Paradela,
Ricardo Fernandez, Maria Delgado, Jose Garcia, Eva Fieira, Lucia Mendez

Department of Thoracic Surgery, Coruña University Hospital, Xubias 84, 15006 Corunna, Spain

Received 9 January 2011; received in revised form 17 February 2011; accepted 22 February 2011; Available online 31 March 2011

Abstract

Objective: To analyse the evolution of the video-assisted thoracoscopic (VATS) approach for lobectomy and results during the first 3 years of program. **Methods:** From 1st July-2007 to 31th July-2010 we carried out 200 lobectomies by VATS. In February 2009 we started performing VATS lobectomies with only 2 incisions. We have analyzed both annual and overall outcomes regarding type of approach, conversion rate, surgical time, lymphadenectomy and overall survival. **Results:** Distribution of the cases per year were as follows: first-year 32, second-year 65, third-year 103. Overall conversion rate was 14,5% (first-year 25%, second-year 20%, third-year 7.8%; $p = 0.017$). Surgical approach was: 4 ports (1 case), 3 ports (99 cases, 100% in first-year), 2 ports (99 cases, 80% in third-year), single-port (1 case, third-year) Mean surgical time in successful VATS was 193.8 min (210.8 first-year, 207.9 second-year, 181.1 third-year; $p = 0.011$), mean number of lymph nodes were 11.9 (9.3 first-year, 10.1 second-year, 13.9 third-year; $p = 0.003$) and mean explored stations was 4.2 (3.6 first-year, 3.8 second-year, 4.5 third-year; $p < 0.001$). Globally median chest tube duration was 3 days. Median length of stay was 4 days. The disease-free survival at 30 months was 85% for Stage I patients and 62% for non-stage I patients. **Conclusions:** As we gain more experience over time, with more cases performed each year and less invasive approaches, results improve in terms of less surgical time and more extended lymphadenectomies. Furthermore, we have observed a clear evolution in our surgical approach to a less invasive 2-port approach. In selected cases we have implemented the single-port lobectomy

© 2011 European Association for Cardio-Thoracic Surgery. Published by Elsevier B.V. All rights reserved.

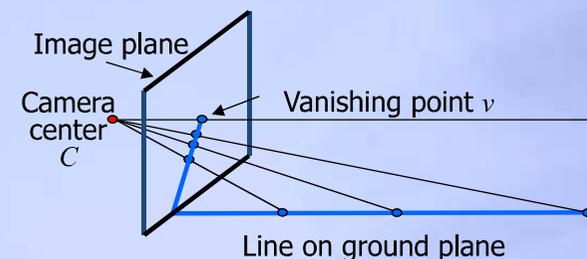
Keywords: Thoracoscopy/VATS; Lobectomy; Lung cancer surgery; Surgical approach

- Ergonomia
- Visione Diretta
- Geometria



Geometry

$$\begin{bmatrix} a & b & c \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = 0, \vec{l} \cdot \vec{p} = 0$$



SURGICAL TECHNIQUE

Geometrical Characteristics of Uniportal VATS

Luca Bertolaccini¹, Gaetano Rocco², Andrea Viti¹, Alberto Terzi¹

¹Division of Thoracic Surgery, S. Croce e Carle Hospital, Cuneo, Italy; ²Division of Thoracic Surgery, National Cancer Institute - Pascale Foundation, Naples, Italy

ABSTRACT

In terms of accuracy and efficacy Uniportal Video-Assisted Thoracic Surgery (VATS) resections are comparable to standard VATS. In standard three-ports VATS, the geometric configuration of a parallelogram generates interference with the optical source, creating a plane with a torsion angle not favorable on the flat two-dimensional vision of currently available monitors. The potential advantages of single-port VATS approach include not only the one intercostal space incision (reduction of postoperative pain) but also a translational approach of VATS instruments along a sagittal plane. Accordingly, the Uniportal approach enables VATS instruments to draw two parallel lines on the plane, bringing them to approach the target lesion from a caudo-cranial perspective thus achieving a projective plane. As a consequence, taking advantage of the unique spatial features specific to uniportal VATS, the surgeon is enabled to bring the operative fulcrum inside the chest to address the target lesion in a fashion similar to open surgery.

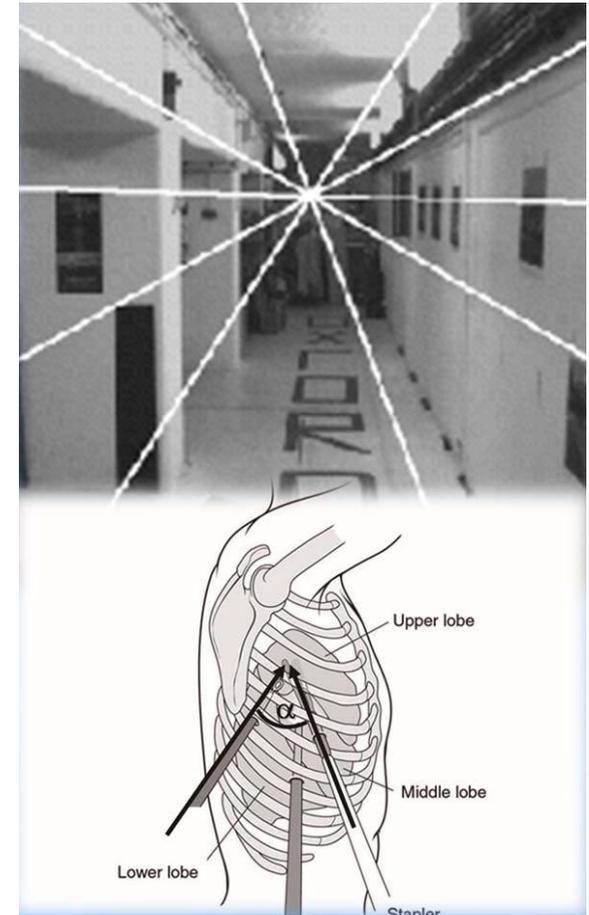
KEY WORDS

Single access thoracoscopy; three access thoracoscopy; minimally invasive thoracic surgery; geometry

J Thorac Dis 2013 Apr 07. doi: 10.3978/j.issn.2072-1439.2013.04.06

- **Visione diretta**
- **Assenza di un angolo di distorsione**

Vantaggi Tecnici



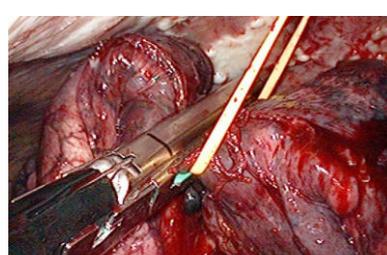
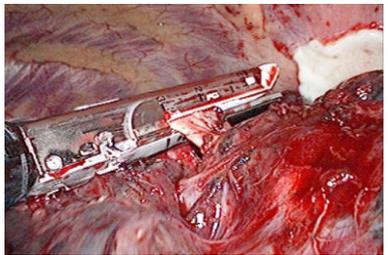
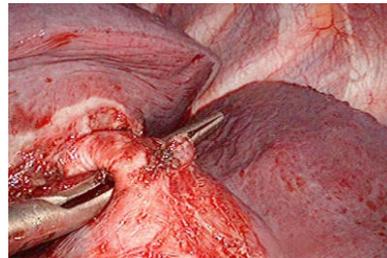
Tri/Bi vs Uni-portale: Tecnica

Lobectomia Medio

1. Isolamento e sutura della vena lobare
2. Bronco lobare
3. Arterie lobari
4. Scissura

Lobectomie Inferiori

1. Sezione del legamento polmonare
2. Isolamento e sutura della vena lobare
3. Arterie Lobari
4. Bronco lobare
5. Scissura



Tri/Bi Portale



Uni-Portale

Tri/Bi vs Uni-portale: Tecnica

Lobectomia Superiore Sinistra

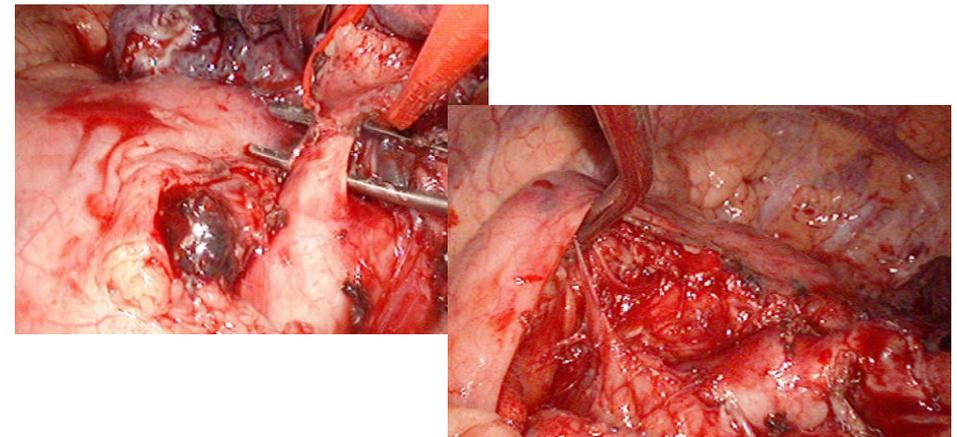
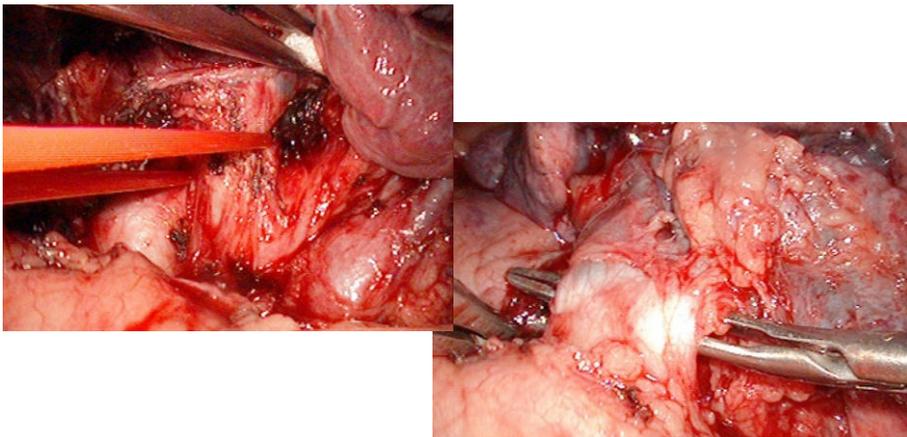
Bi/Tri Portale

1. Isolamento e sutura della vena lobare
2. Ramo mediastinico arteria polmonare
3. Bronco lobare
4. Ramo arterioso lingulare ed ulteriori rami del Culmen
5. Scissura

Lobectomia Superiore Sinistra

Uni-Portale

1. Ramo mediastinico arteria polmonare
2. Isolamento e sutura della vena lobare
3. Scissura
4. Ramo arterioso lingulare ed ulteriori rami del Culmen
5. Bronco lobare

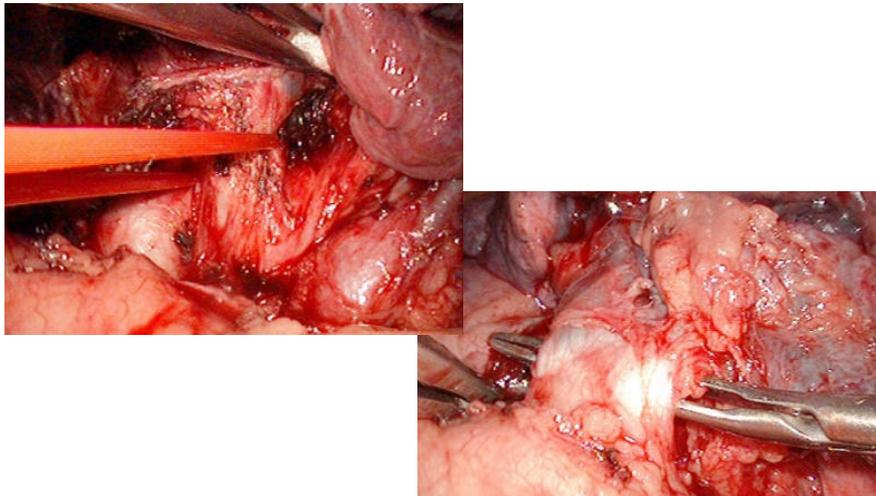


Tri/Bi vs Uni-portale: Tecnica

Lobectomia Superiore Destra

Bi/Tri Portale

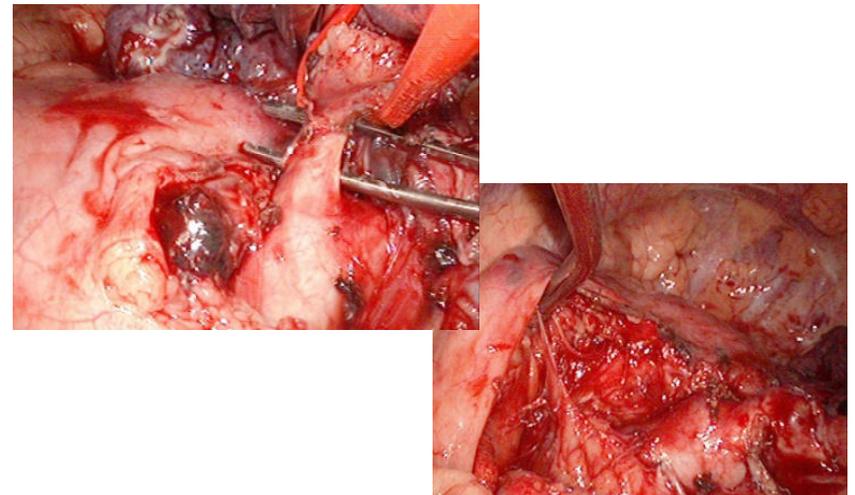
1. Dissezione e sutura della vena lobare
2. Ramo di Boyden dell'arteria polmonare
3. Arteria ricorrente scissurale
4. Bronco lobare superiore
5. Scissura



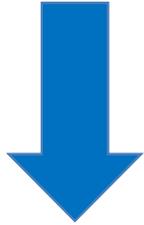
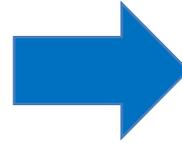
Lobectomia Superiore Destra

Uni-Portale

1. Ramo di Boyden dell'arteria polmonare
2. Dissezione e sutura della vena lobare
3. Scissura
4. Arteria ricorrente scissurale
5. Bronco lobare superiore



Chest Wall: U-VATS vs Tri/Bi ports



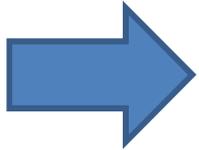
Single-port VATS lobectomy and chest wall resection



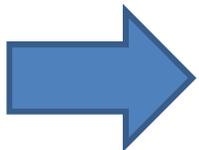
SINGLE INCISION THORACOSCOPIC RIGHT UPPER LOBECTOMY WITH CHEST WALL RESECTION BY POSTERIOR APPROACH

Gonzalez-Rivas et al. Innovations. Vol 8 (1). Jan 2013

Rapporto costo-beneficio nella riduzione del numero di accessi nella VATS lobectomy



1. Costi e risultati post-operatori a breve termine



2. Risultati a lungo termine ed adeguatezza oncologica

Costi e risultati post-operatori a breve termine

Perspective

Ann Cardiothorac Surg 2016;5(2):112-117

Overview of uniportal video-assisted thoracic surgery (VATS): past and present

J. Matthew Reinersman¹, Eliseo Passera², Gaetano Rocco³

¹Department of Surgery, Division of Thoracic and Cardiovascular Surgery, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, USA; ²Department of Thoracic Surgery, Humanitas Gavazzeni Institute, Bergamo, Italy; ³Department of Thoracic Surgery and Oncology, Division of Thoracic Surgery, Istituto Nazionale Tumori, Pascale Foundation, IRCCS, Naples, Italy

Correspondence to: Gaetano Rocco, MD, FRCSEd, FETCS. Department of Thoracic Surgery and Oncology, Division of Thoracic Surgery, Istituto Nazionale Tumori, Fondazione Pascale, IRCCS, Via Mariano Semmola 81, 80131 Naples, Italy. Email: gaetanorocco60@gmail.com.

Single incision video-assisted thoracic surgery (VATS), better known as uniportal VATS, has taken the world of thoracic surgery by storm over the previous few years. Through advances in techniques and technology, surgeons can perform a single incision, with a small incision, but with the extension of which generally performs the use of small staplers and the extension of the access point. The better visualization of VATS is being used typically requires pulmonary artery and provides but

Keywords: Uniportal VATS, video-assisted thoracic surgery

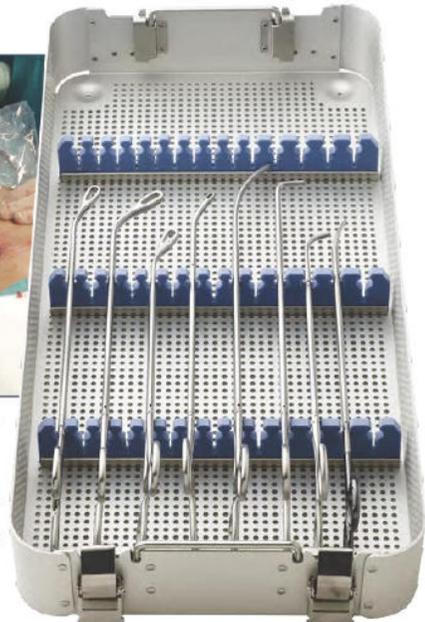
Table 2 Comparison between uniportal VATS and conventional three port VATS

Outcome	Uniportal VATS and conventional three port VATS
Cosmetic result	Better in uniportal VATS (18)
Chest drain duration	No differences (19)
Costs	Extra costs by uniportal VATS (could be compensated by shorter hospital stay) (20)
Hospital stay	No differences in most published studies
Paraesthesia	Less in uniportal VATS (20)
Pain	Uniportal VATS may offer improved pain scores (3)
Safety and feasibility	No differences (4)
Indications	No differences (usually not suitable for complex procedures)
Modality of anesthesia	Awake surgery is more manageable in uniportal VATS (21)
Postoperative complications	No differences (18)
Operative time	No differences (19)
Significant benefit	Not known

VATS, video-assisted thoracic surgery.

Uniportal / Single-Incision Scanlan® VATS Instruments

As recommended by Diego Gonzalez-Rivas, MD, FECTS



...ision) VATS surgery
improves the
minimizes the
intercostal nerve"
Dr. Gonzalez-Rivas

...o-assisted thoroscopic
be performed with
ts, the use of specially
material (such as
with proximal and distal
be more fitted for
obectomy."¹

¹ Gonzalez-Rivas D, Fernandez R, et al. Thorascopic lobectomy through a single incision. Multi-Media Manual of Cardiothoracic Surgery published online 16 March 2012.

This technique description is made available to the healthcare professional to illustrate a possible treatment for an uncomplicated procedure. The preferred treatment is that which addresses the unique needs of the individual patient.



Uni-Portale
=
Tri/Bi Portale



ThoraGate™ VATS/Thoracoscopy Instruments



- ThoraGate™ Metzenbaum Scissors, curved, sliding shaft
34-7323 32 cm medium
- ThoraGate™ Foerster Lung Grasper, with ratchet, sliding shaft
34-7329 A 33.5 cm straight regular 10 mm
- 34-7330 B 33.5 cm curved slim 7 mm
- 34-7328 B 33.5 cm curved

Costi e risultati post-operatori a breve termine

Institutional report - Thoracic general

Uniportal video-assisted thoracic surgery for primary spontaneous pneumothorax: clinical and economic analysis in comparison to the traditional approach

Michele Salati^{a,*}, Alessandro Brunelli^a, Francesco Xiumè^a, Majed Refai^a, Valeria Sciarra^a, Andrea Soccetti^b, Armando Sabbatini^a

^aUnit of Thoracic Surgery, Department of Respiratory Diseases, 'Umberto I' Regional Hospital, Ancona, Italy

^bAdministration Department, 'Umberto I' Regional Hospital, Ancona, Italy

Table 3

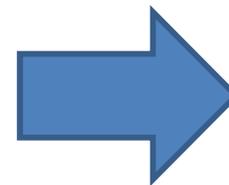
Comparison of intraoperative and postoperative costs between uni-port and three-port groups

	Uni-port	Three-port	P-value
Surgical material costs (€)	968 (215.6)	1016 (280.4)	0.69*
Operating room occupancy costs (€)	241 (106)	229 (84.8)	0.67*
Postoperative stay costs (€)	1407 (649.2)	1793 (893.5)	0.03*

Results are expressed as means \pm S.D.

*Mann-Whitney test.

Table 3 shows the results of the economic analysis. Uni-portal VATS did not increase the costs of surgical instrumentation or the costs of occupancy of the operating room. On the other hand, uniportal VATS determined a significant reduction in the postoperative costs by almost €400/patient ($P=0.03$).



Riduzione del costo complessivo U- VATS legato alla riduzione della durata dei ricoveri

Costi e risultati post-operatori a breve termine

Perspective

Ann Cardiothorac Surg 2016;5(2):112-117

Overview of uniportal video-assisted thoracic surgery (VATS): past and present

J. Matthew Reinersman¹, Eliseo Passera², Gaetano Rocco³

Table 2 Comparison between uniportal VATS and conventional three port VATS

Outcome	Uniportal VATS and conventional three port VATS
Cosmetic result	Better in uniportal VATS (18)
Chest drain duration	No differences (19)
Costs	Extra costs by uniportal VATS (could be compensated by shorter hospital stay) (20)
Hospital stay	<u>No differences in most published studies</u>
Paraesthesia	Less in uniportal VATS (20)
Pain	Uniportal VATS may offer improved pain scores (3)
Safety and feasibility	No differences (4)
Indications	No differences (usually not suitable for complex procedures)
Modality of anesthesia	Awake surgery is more manageable in uniportal VATS (21)
Postoperative complications	No differences (18)
Operative time	No differences (19)
Significant benefit	Not known

VATS, video-assisted thoracic surgery.

Costi e risultati post-operatori a breve termine

Systematic Review

Ann Cardiothorac Surg 2016;5(2):76-84

Systematic review and meta-analysis of uniportal versus multiportal video-assisted thoracoscopic lobectomy for lung cancer

Christopher G. Harris¹, Rebecca S. James^{1,2}, David H. Tian^{1,3}, Tristan D. Yan^{1,4,5}, Mathew P. Doyle⁶, Diego Gonzalez-Rivas⁷, Christopher Cao^{1,6}

¹The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia; ²The Sydney Children's Hospital, Sydney, Australia; ³Royal North Shore Hospital, Sydney, Australia; ⁴Department of Cardiothoracic Surgery, Royal Prince Alfred Hospital, Sydney, Australia; ⁵University of Sydney, Sydney, Australia; ⁶Department of Cardiothoracic Surgery, St George Hospital, Sydney, Australia; ⁷Department of Thoracic Surgery (Coruña University Hospital) and Minimally Invasive Thoracic Surgery Unit (UCTMI), Coruña, Spain

Correspondence to: Christopher Cao. The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia. Email: chriscao@annalscts.com.

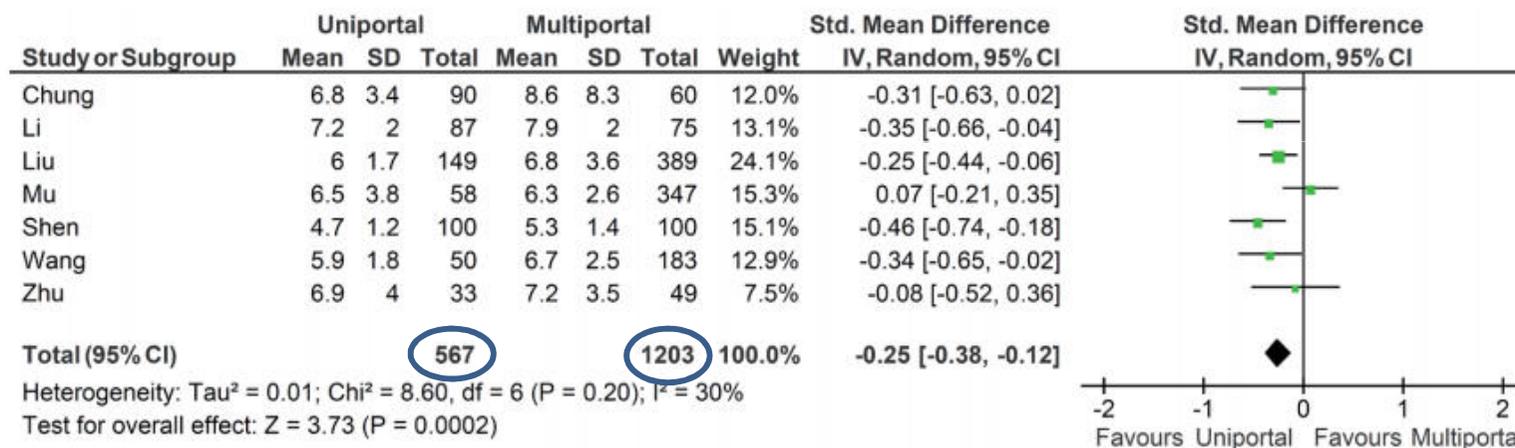


Figure 2 Forest plot of length of stay for uniportal and multiportal groups. The estimate of the mean difference of each study corresponds to the middle of the squares and the horizontal line shows the 95% confidence interval (CI). On each line, the mean and standard deviations are shown for both treatment groups. The sum of the statistics, along with the summary standardized mean difference, is represented by the middle of the solid diamonds. A test of heterogeneity between the trials within a subgroup is given below the summary statistics.

Costi e risultati post-operatori a breve termine

Systematic Review

Ann Cardiothorac Surg 2016;5(2):76-84

Systematic review and meta-analysis of uniportal versus multiportal video-assisted thoracoscopic lobectomy for lung cancer

Christopher G. Harris¹, Rebecca S. James^{1,2}, David H. Tian^{1,3}, Tristan D. Yan^{1,4,5}, Mathew P. Doyle⁶, Diego Gonzalez-Rivas⁷, Christopher Cao^{1,6}

¹The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia; ²The Sydney Children's Hospital, Sydney, Australia; ³Royal North Shore Hospital, Sydney, Australia; ⁴Department of Cardiothoracic Surgery, Royal Prince Alfred Hospital, Sydney, Australia; ⁵University of Sydney, Sydney, Australia; ⁶Department of Cardiothoracic Surgery, St George Hospital, Sydney, Australia; ⁷Department of Thoracic Surgery (Coruña University Hospital) and Minimally Invasive Thoracic Surgery Unit (UCTMI), Coruña, Spain

Correspondence to: Christopher Cao. The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia. Email: chriscao@annalscts.com.

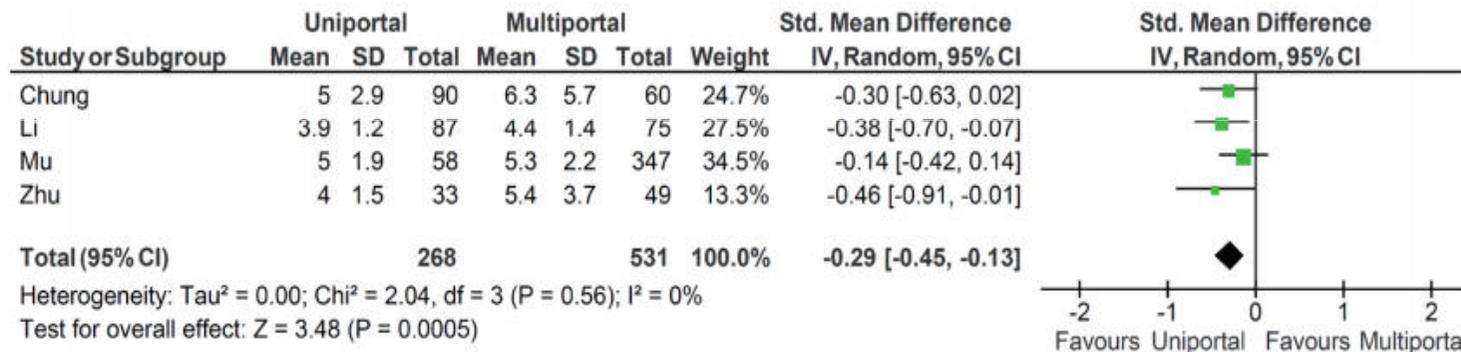


Figure 3 Forest plot of duration of postoperative drainage for uniportal and multiportal groups. The estimate of the mean difference of each study corresponds to the middle of the squares and the horizontal line shows the 95% confidence interval (CI). On each line, the mean and standard deviations are shown for both treatment groups. The sum of the statistics, along with the summary standardized mean difference, is represented by the middle of the solid diamonds. A test of heterogeneity between the trials within a subgroup is given below the summary statistics.

Costi e risultati post-operatori a breve termine

Systematic Review

Ann Cardiothorac Surg 2016;5(2):76-84

Systematic review and meta-analysis of uniportal versus multiportal video-assisted thoracoscopic lobectomy for lung cancer

Christopher G. Harris¹, Rebecca S. James^{1,2}, David H. Tian^{1,3}, Tristan D. Yan^{1,4,5}, Mathew P. Doyle⁶, Diego Gonzalez-Rivas⁷, Christopher Cao^{1,6}

¹The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia; ²The Sydney Children's Hospital, Sydney, Australia; ³Royal North Shore Hospital, Sydney, Australia; ⁴Department of Cardiothoracic Surgery, Royal Prince Alfred Hospital, Sydney, Australia; ⁵University of Sydney, Sydney, Australia; ⁶Department of Cardiothoracic Surgery, St George Hospital, Sydney, Australia; ⁷Department of Thoracic Surgery (Coruña University Hospital) and Minimally Invasive Thoracic Surgery Unit (UCTMI), Coruña, Spain

Correspondence to: Christopher Cao. The Collaborative Research (CORE) Group, Macquarie University, Sydney, Australia. Email: chriscao@annalscts.com.

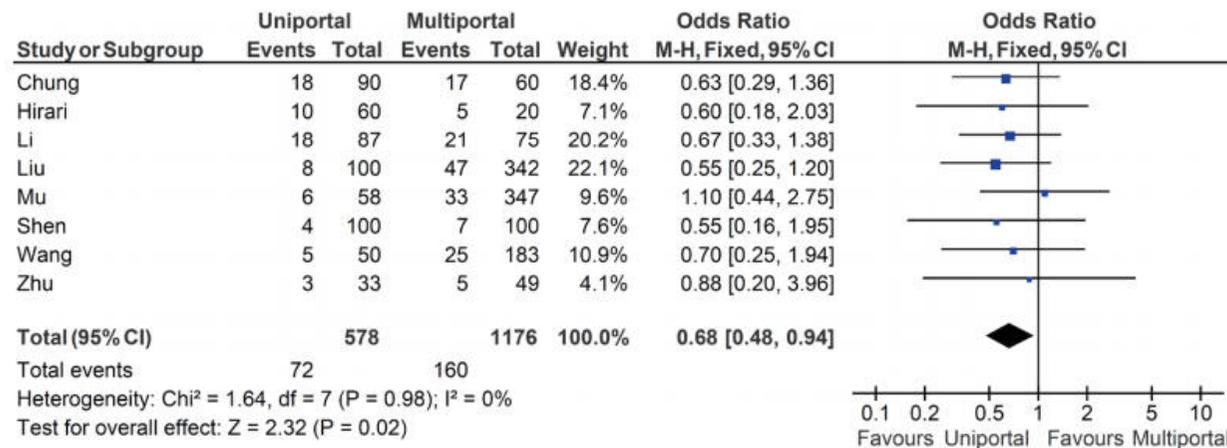


Figure 4 Forest plot of overall morbidity for uniportal and multiportal groups. The estimate of the mean difference of each study corresponds to the middle of the squares and the horizontal line shows the 95% confidence interval (CI). On each line, the mean and standard deviations are shown for both treatment groups. The sum of the statistics, along with the summary standardized mean difference, is represented by the middle of the solid diamonds. A test of heterogeneity between the trials within a subgroup is given below the summary statistics.

Costi e risultati post-operatori a breve termine

Perspective

Ann Cardiothorac Surg 2016;5(2):112-117

Overview of uniportal video-assisted thoracic surgery (VATS): past and present

J. Matthew Reinersman¹, Eliseo Passera², Gaetano Rocco³

Table 2 Comparison between uniportal VATS and conventional three port VATS

Outcome	Uniportal VATS and conventional three port VATS
Cosmetic result	Better in uniportal VATS (18)
Chest drain duration	No differences (19)
Costs	Extra costs by uniportal VATS (could be compensated by shorter hospital stay) (20)
Hospital stay	No differences in most published studies
Paraesthesia	Less in uniportal VATS (20)
Pain	Uniportal VATS may offer improved pain scores (3)
Safety and feasibility	No differences (4)
Indications	No differences (usually not suitable for complex procedures)
Modality of anesthesia	Awake surgery is more manageable in uniportal VATS (21)
Postoperative complications	No differences (18)
Operative time	No differences (19)
Significant benefit	Not known

VATS, video-assisted thoracic surgery.

Costi e risultati post-operatori a breve termine

European Journal of Cardio-Thoracic Surgery 50 (2016) 411–415
doi:10.1093/ejcts/ezw161 Advance Access publication 12 May 2016

ORIGINAL ARTICLE

Cite this article as: Perna V, Carvajal AF, Torrecilla JA, Gigirey O. Uniportal video-assisted thoracoscopic lobectomy versus other video-assisted thoracoscopic lobectomy techniques: a randomized study. Eur J Cardiothorac Surg 2016;50:411–5.

Uniportal video-assisted thoracoscopic lobectomy versus other video-assisted thoracoscopic lobectomy techniques: a randomized study

Valerio Perna*, Angel Francisco Carvajal, Juan Antonio Torrecilla and Orlando Gigirey

Department of Thoracic Surgery, Hospital Universitario Son Espases Carretera de Valldemossa, Palma, Spain

* Corresponding author. Department of Thoracic Surgery, Hospital Universitario Son Espases Carretera de Valldemossa, 79 07010 Palma, Spain. Tel: +34-871-206145; fax: +34-871-909724; e-mail: v.perna@hotmail.com (V. Perna).

Received 1 September 2015; received in revised form 4 April 2016; accepted 13 April 2016

Abstract

OBJECTIVES: A prospective, randomized study was carried out on patients undergoing lung cancer surgery, with the aim of determining if uniportal video-assisted lobectomy has more favourable postoperative outcomes than other video-assisted thoracoscopic lobectomy techniques (Duke approach and Copenhagen approach).

METHODS: Patients were randomly assigned to two groups; uniportal video-assisted lobectomy (Group A; $n = 51$) and other video-assisted thoracoscopic lobectomy techniques (Group B; $n = 55$). The primary outcome measures were: postoperative pain (analogue visual scale) and supplementary doses of analgesics (morphine, milligrams); the secondary outcome measures were: the delay in removing the paravertebral catheter and the chest drain, the duration of the postoperative hospital stay, postoperative complications and the operative or

RESULTS: One hundred and six lobectomies were completed. Both groups were comparable with respect to different clinical parameters (age, clinical stage and comorbidity), preoperative and pathological variables. The median visual analogue pain score in the first 3 days did not show statistically significant differences (respectively, $P = 0.58$, $P = 0.64$, $P = 0.85$). Likewise, the median morphine use in the first 3 days did not show statistically significant differences (respectively, $P = 0.72$, $P = 0.81$, $P = 0.64$). There was no difference in timing to remove the paravertebral catheter ($P = 0.82$) and the chest drain ($P = 0.65$) and the duration of the postoperative hospital stay ($P = 0.62$). There was no difference in postoperative complications (one reoperation for bleeding in Group B, $P = 0.24$). There was no operative or 30-day mortality in either group.

CONCLUSIONS: Uniportal video-assisted thoracoscopic lobectomy does not present better postoperative outcomes than other video-assisted thoracoscopic lobectomy techniques.

Forza:

- Randomizzato
- Prospettico

Debolezza:

- Campione non numeroso
U-VATS $n=51$ vs OTHERS $n=55$

Costi e risultati post-operatori a breve termine

European Journal of Cardio-Thoracic Surgery 50 (2016) 411–415
doi:10.1093/ejcts/ezw161 Advance Access publication 12 May 2016

ORIGINAL ARTICLE

Cite this article as: Perna V, Carvajal AF, Torrecilla JA, Gigirey O. Uniportal video-assisted thoracoscopic lobectomy versus other video-assisted thoracoscopic lobectomy techniques: a randomized study. Eur J Cardiothorac Surg 2016;50:411–5.

Uniportal video-assisted thoracoscopic lobectomy versus other video-assisted thoracoscopic lobectomy techniques: a randomized study

Valerio Perna*, Angel Francisco Carvajal, Juan Antonio Torrecilla and Orlando Gigirey

Department of Thoracic Surgery, Hospital Universitario Son Espases Carretera de Valldemossa, Palma, Spain

Table 3: Primary outcomes: Group A and Group B

	Group A	Group B	P-value
Patients, <i>n</i>	51	55	
Median VAS in the first 24 h	3	3	0.58
Median VAS on the second day	2	2	0.64
Median VAS on the third day	1	1	0.85
Median morphine use in the first 24 h (mg)	14	11	0.72
Median morphine use on the second day (mg)	8	7	0.81
Median morphine use on the third day (mg)	2	2	0.64

VAS: visual analogue pain score.

Table 4: Secondary outcomes with interquartile and confidence interval: Group A and Group B

	Group A	Group B	P-value
Patients, <i>n</i>	51	55	
Median duration of PVC	1 (1, 1)	1 (1, 2)	0.82
Median duration of chest drain (days)	2 (2, 3)	2 (1, 4)	0.65
Median in-hospital stay (days)	3 (2, 5)	3 (2, 5)	0.62
Reoperation	0	1	0.24
Operative or 30-day mortality	0	0	1

PVC: paravertebral catheter.

Risultati a lungo termine ed adeguatezza oncologica



NCBI Resources ▾ How To ▾ Sign in to NCBI

PubMed.gov US National Library of Medicine
National Institutes of Health

PubMed ▾ long term survival; uniportal vs multiportal vats lobectomy [Create alert](#) [Advanced](#) [Help](#)

Article types

- Clinical Trial
- Review
- Customize ...

Text availability

- Abstract
- Free full text
- Full text

PubMed Commons

- Reader comments

Search results

Items: 0

i No documents match your search terms

Search details

```
long[All Fields] AND ("term birth" [MeSH Terms] OR ("term"[All Fields] AND "birth"[All Fields]) OR "term birth"[All Fields] OR "term"[All Fields]) AND ("mortality"
```

[See more...](#)

Risultati a lungo termine ed adeguatezza oncologica

Original

Peor supervivencia estadística a largo plazo en pacientes con cáncer de pulmón sometidos a lobectomía uniportal. Estudio comparativo de diferentes abordajes videotoroscópicos

José M. Borro^{a,*}, Francisco Regueiro^b, Sonia Pértega^c, Manuel Constenla^d y Salvador Pita^c

^a Departamento de Cirugía Torácica, Hospital Universitario de A Coruña, A Coruña, España

^b Departamento de Cirugía, Universidad de A Coruña, A Coruña, España

^c Departamento de Epidemiología Clínica y Bioestadística, Hospital Universitario de A Coruña, A Coruña, España

^d Departamento de Oncología Médica, Hospital de Pontevedra, Pontevedra, España

U-VATS n= 130 Vs Others n= 146

Statistically Worse Long-term Survival After Single port Lung Cancer Lobectomy. Comparative study of Different Videothoroscopic Approaches

A B :

Introc
of lun
the s:
Meth
analy
stage
main
versu
Resul
that l
and n
survi
(stagi
comp
risk o
of tw
Concl
sugge
surge

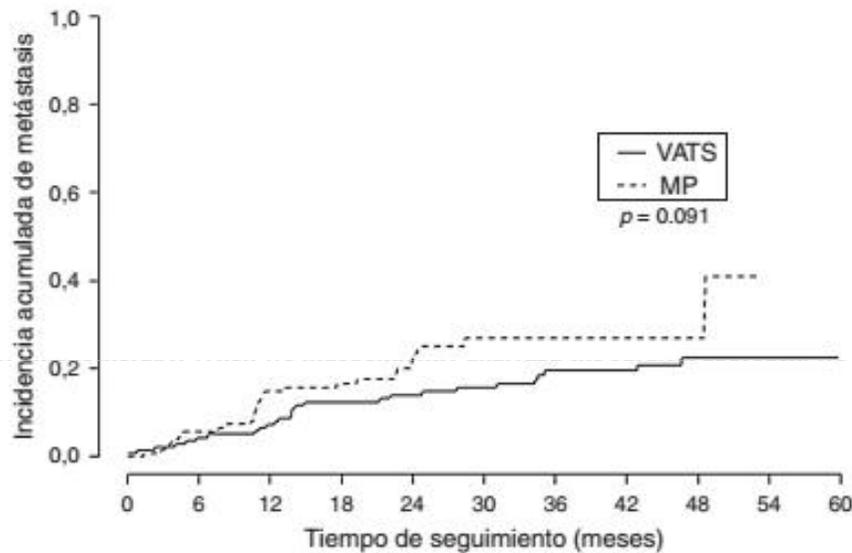


Figura 4. Incidencia acumulada de metástasis. Análisis de riesgo competitivo (VATS/MP).

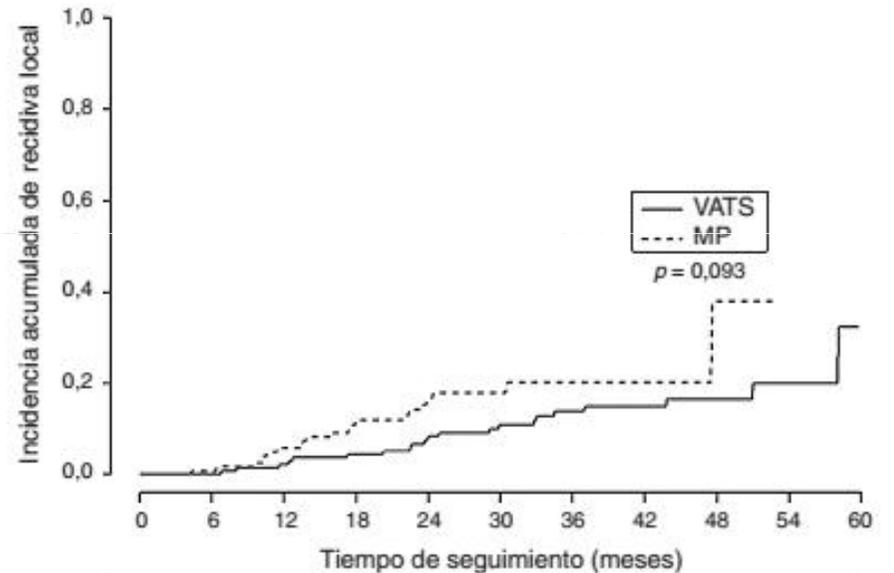


Figura 3. Incidencia acumulada de recidivas locales. Análisis de riesgo competitivo. (VATS/MP).

y sta
achi

rtm
olog
vith
vo/ti

is fo
ppre
a lo
al s
grou
a hij
in f.

biologías,
g cancer

Tri / Bi vs Uni-portale: Conclusioni

Editorial

J Thorac Dis 2016;8(12):E1625-E1627

Does the number of incisions in video-assisted thoracoscopic surgery matter?

Henrik Jessen Hansen¹, Gonzalo Varela², René Horsleben Petersen¹, William S. Walker³

Comment on: Perna V, Carvajal AF, Torrecilla JA, *et al.* Uniportal video-assisted thoracoscopic lobectomy versus other video-assisted thoracoscopic lobectomy techniques: a randomized study. *Eur J Cardiothorac Surg* 2016;50:411-5.

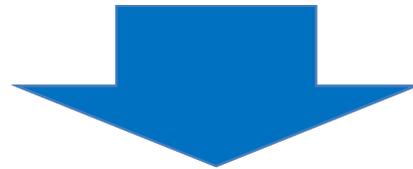
«as with other new surgical strategies, uniportal VATS needs to find its own role and should be subject to the full rigour of scientific scrutiny»

« [...] detailed studies are needed. We must reach beyond the era of “see what I can do” papers! »

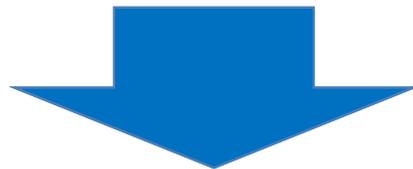
« What creates most surgical trauma in VATS? Several instrument through one incision or several small incisions with one instrument in each? [...] Nobody can answer these questions at present. »

Tri / Bi vs Uni-portale: Conclusioni

- **Ciascuna tecnica è affidabile in mani esperte**
- **Sicurezza, Vantaggi ed Adeguatezza oncologica dell' Uniportale sono da dimostrare**
- **Confronto vero necessita studi prospettici randomizzati, ad oggi assenti (eccezioni)**
- **Universalità dell'Uniportale è ad oggi discutibile**



Studi su dati provenienti da registri ufficiali



Vats Group



**LESS IS
MORE**

[MORE OR LESS]