



SAPIENZA
UNIVERSITÀ DI ROMA



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

PROS & CONS

PADOVA 30 MARZO 2017

Potenziali Problematiche Lobectomie in VATS

Radicalità Oncologica

Resezioni polmonari complesse

Linfoadenectomia

Necessità di strumentazione dedicata

Tempi operatori aumentati

Vantaggi Uniportale

Incisione unica da 0.5 a 5 cm

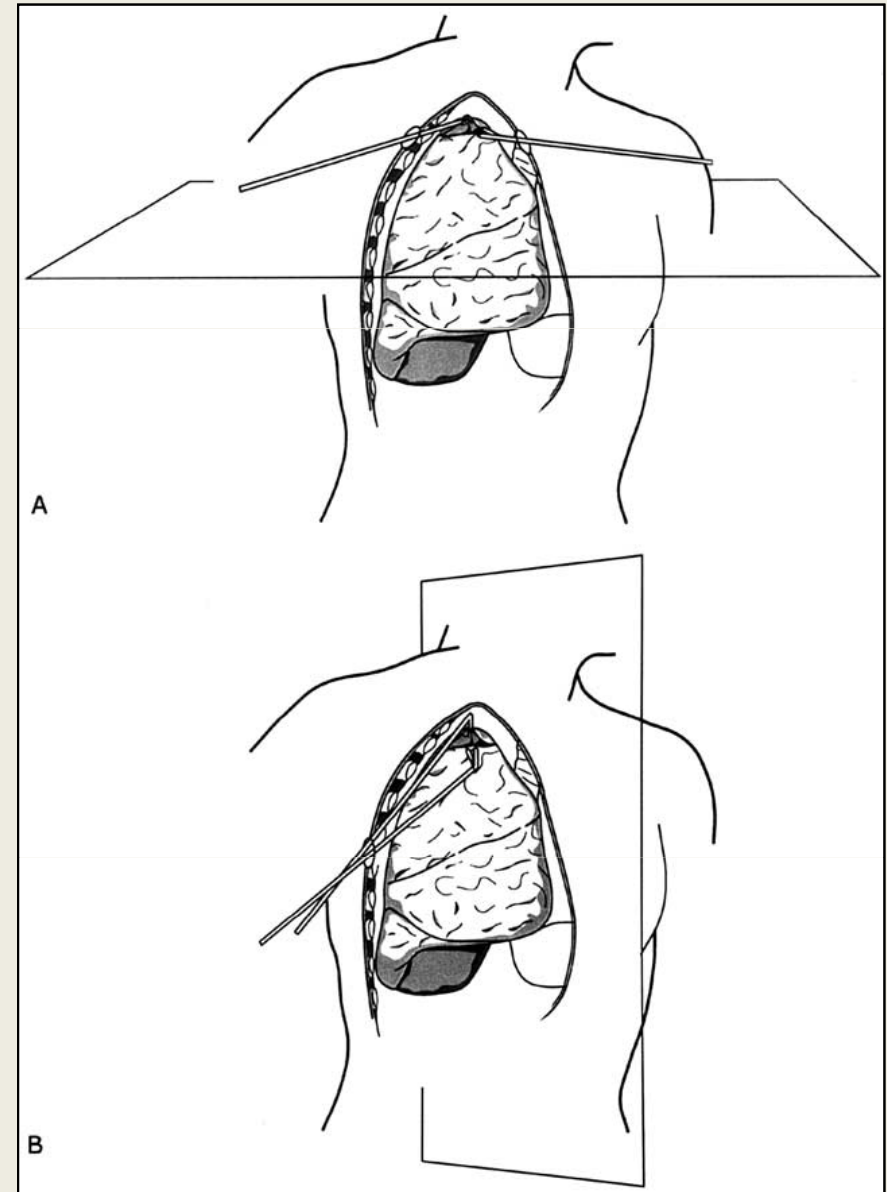
Assenza del “Diamante”

**Visione simile all’open surgery
diretta**

Approccio sagittale

**Strumentazione in parallelo
(minori zone di conflitto)**

Sede dell’incisione “cruciale”

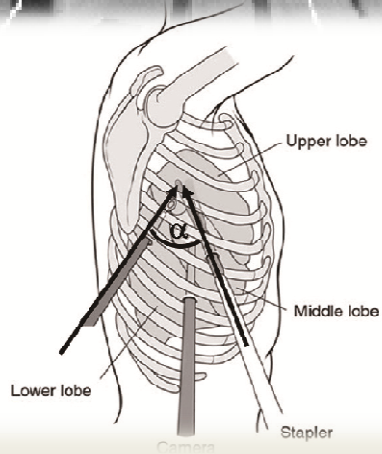
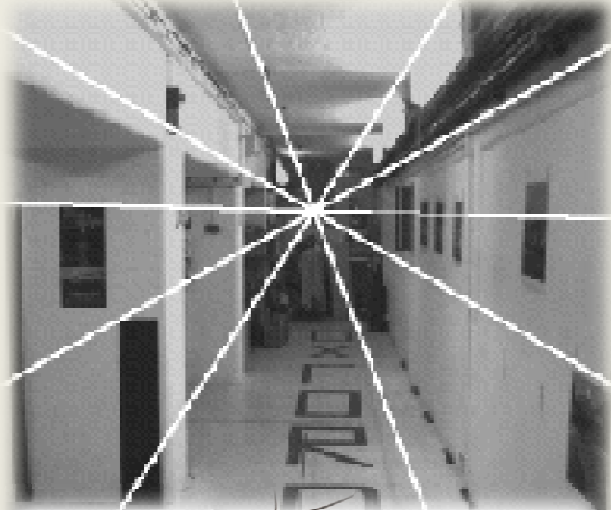


Vantaggi Uniportale

Dimostrazione matematica e fisica

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

- Absence of dihedral or torsion angle
- Direct view



SURGICAL TECHNIQUE

Geometrical Characteristics of Uniportal VATS

Luca Bertolaccini¹, Gaetano Rocco², Andrea Viti¹, Alberto Terzi¹

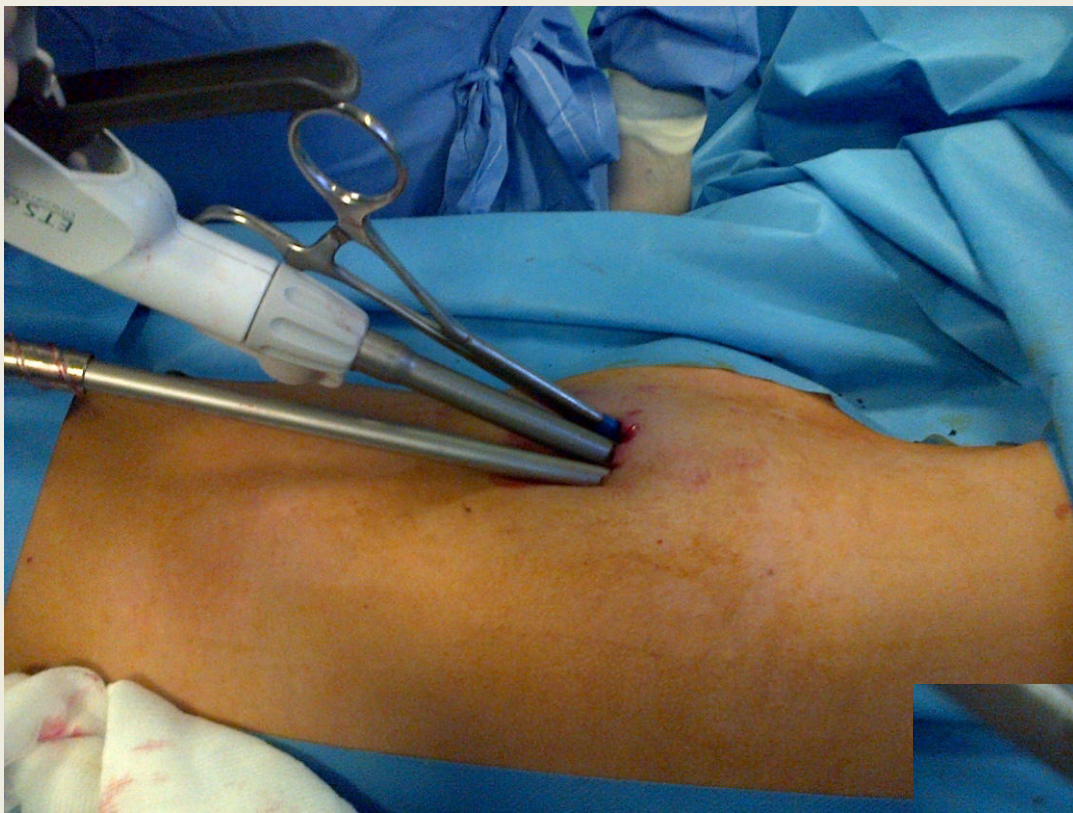
¹Division of Thoracic Surgery, S. Croce e Carle Hospital, Cuneo, Italy; ²Division of Thoracic Surgery, National Cancer Institute - Pascale Foundation, Naples, Italy

ABSTRACT

In terms of feasibility 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 feasible 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 entering a perspective plane. As a consequence, taking advantage of the unique spatial features specific to uniportal VATS, the surgeon is enabled to bring the operative field into the closed 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

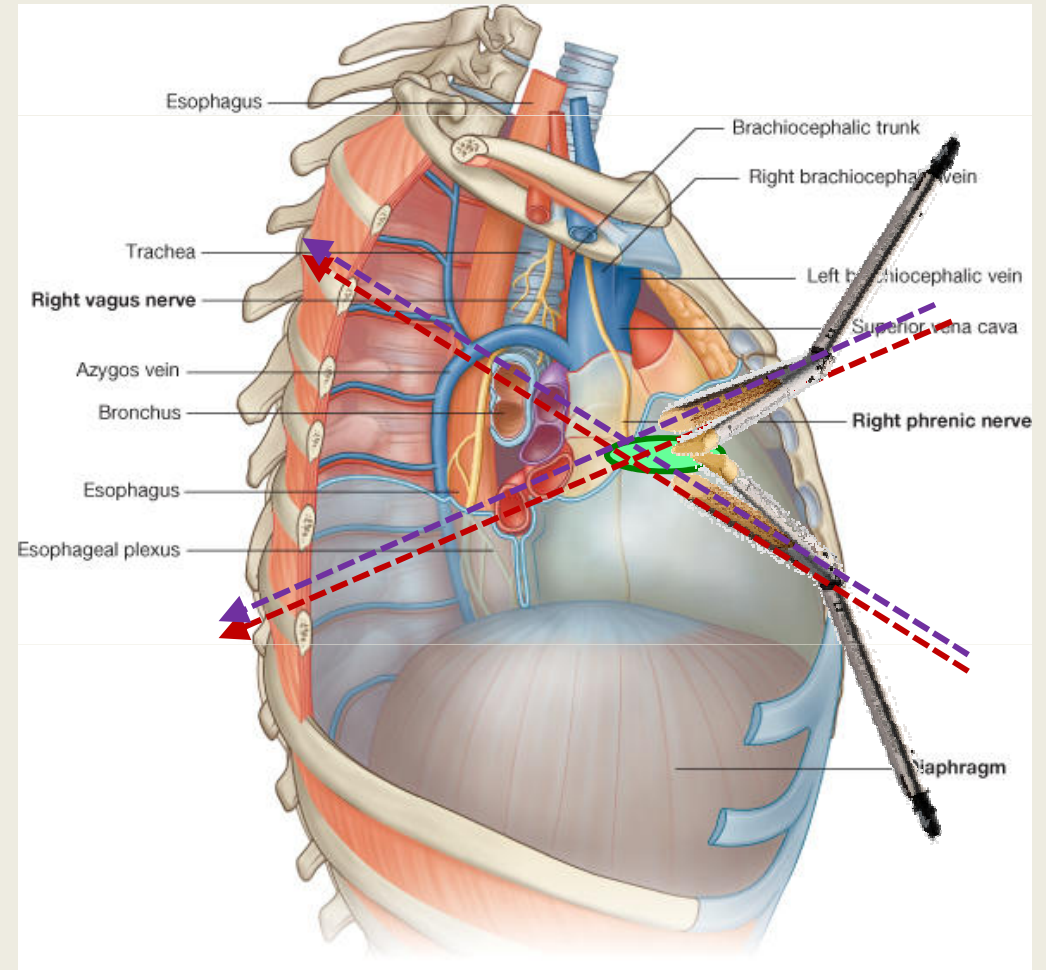


Lobectomie Uniportali

Caratteristiche

- **Incisione : 4-5 cm (5° spazio)**
- **No trocar**
- **Divaricatore dei tessuti molli**
- **Strumentazione con articolazione prossimale e distale**
- **Toracoscopio 30° (camera HD)**
- **Camera: parte posteriore**
- **Lavoro Bimanuale**
- **Energy devices // Staplers // Clips Vascolari**

Incisione V spazio intercostale



UNIPORTALE:

Minore compressione sul nervo

2 - 3 ports

More comfortable for assistant

Camera lean on trocar



Single Port

Uncomfortable for assistant

Camera is suspended



Lobectomie Uniportali

Pros

- **Diminuzione del dolore post-operatorio e parestesie**
- **Minore tempi di degenza**
- **Precoce rimozione del drenaggio**
- **Migliore impatto estetico**
- **Marketing**

Lobectomie Uniportali

Cons

- **Corretta incisione cruciale**
- **Minori angoli di lavoro**
- **Linfoadenectomia del mediastino posteriore più difficoltosa**
- **Curva di apprendimento più lunga**
- **Posizione dell'assistente scomoda**

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.

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- **Identificazione di oltre 1000 lavori**
- **Elegibili 38**
- **Selezionati 8**
- **1850 VATS lobectomy: 627 uniportali e 1223 multiportali**
- **1 lavoro solo prende in considerazione dolore post-operatorio**

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Degenza ospedaliera
Rimozione drenaggi
Morbidity

P<0,009

Tempo operatorio
Emorragia
Tasso di conversione

P=NS

Lobectomie Uniportale

Curva di apprendimento – Nostra Esperienza

Lobectomia Open

Confidenza con la procedura mediante

Simpaticetomia

Biopsie pleuriche

Patologie mediastiniche

Resezioni polmonari minori

Pneumotorace



**Lobectomia
uniportale**

59 Lobectomie Uniportali (Dicembre 2012- Dicembre 2016)

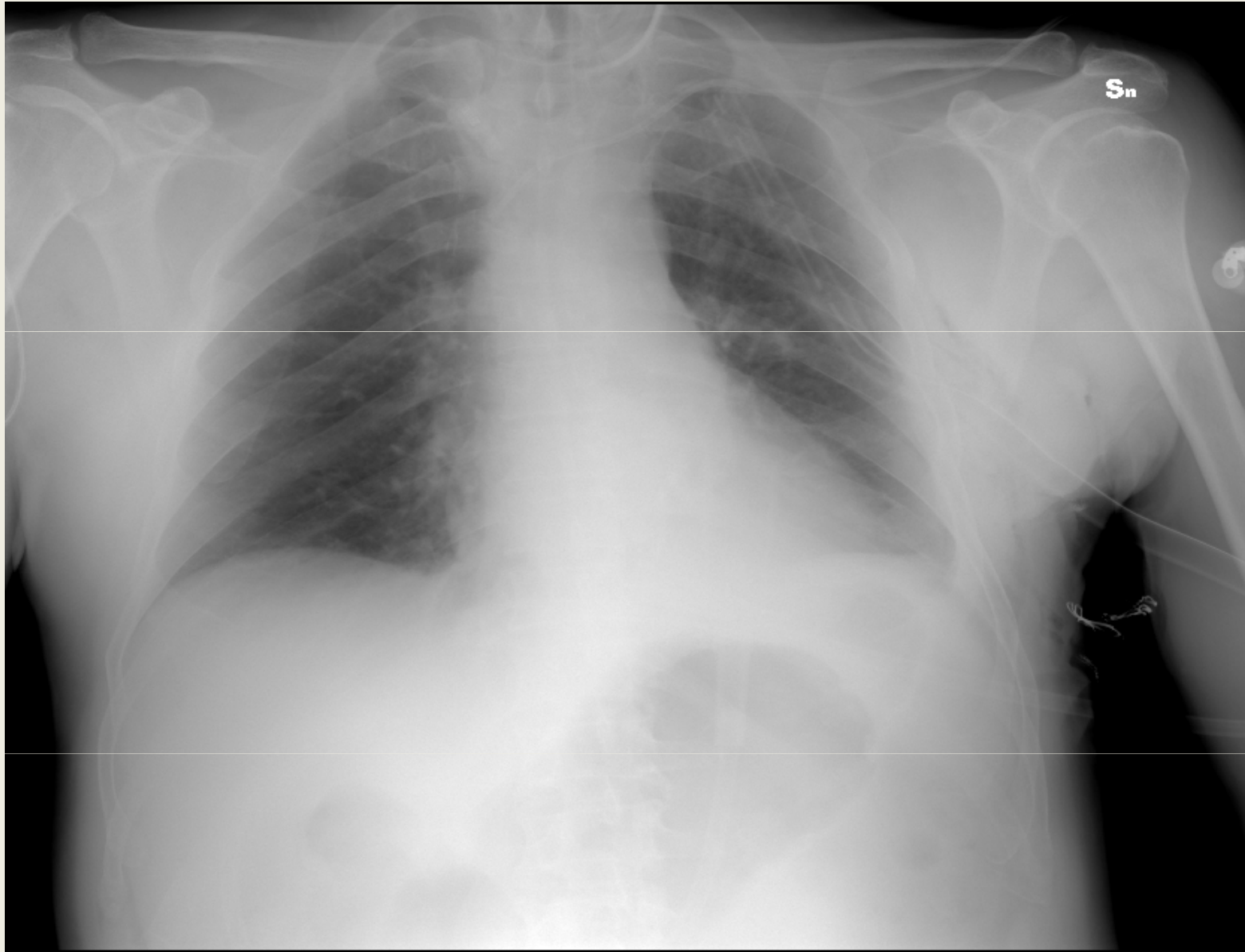
- **Tempo Operatorio 157.7 ± 39 (110-220)**
- **6 Conversioni: per rottura del Boyden (2), Estese Aderenze (2), Lesione vena succlavia da CVC (1), anomalia vascolare (1)**
- **Infiltrazione della ferita con Naropina e Lidocaina (medesimo trattamento per VATS con più accessi)**
- **Utilizzo del retrattore dei tessuti molli nei pz obesi**

Risultati

Degenza $3.7 \pm 1,8$ gg

Rimozione drenaggio toracico 2.6 ± 1.7

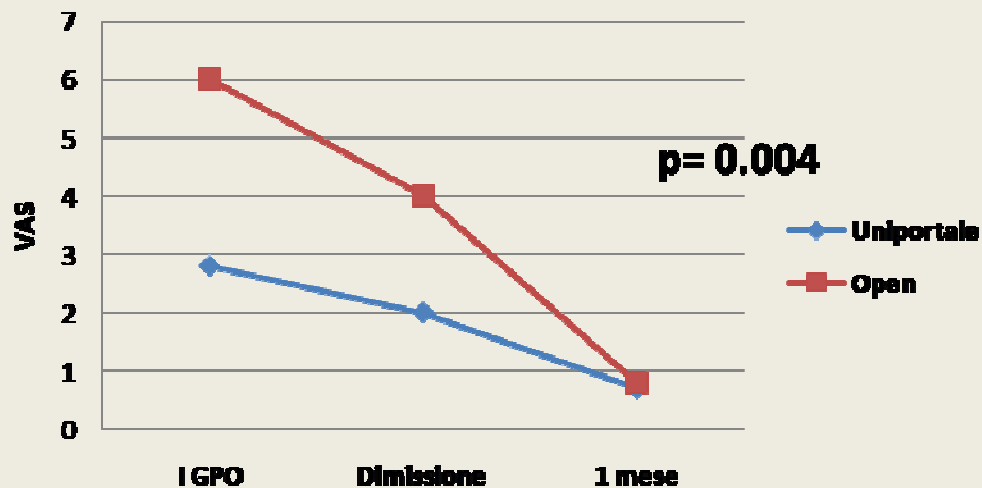
**3 Complicanze: fibrillazione atriale (1), versamento pleurico (1),
infarto del miocardio con posizionamento 4 stents (1)**



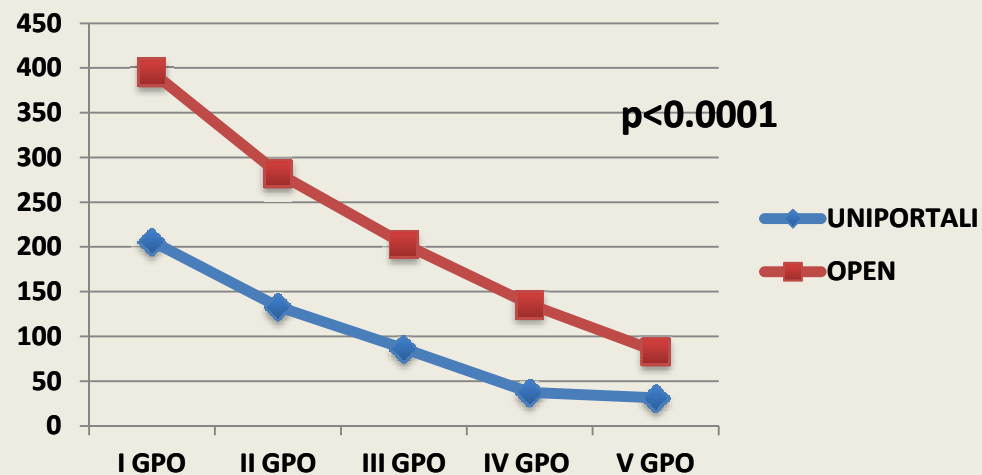
1° giornata PO

Risultati

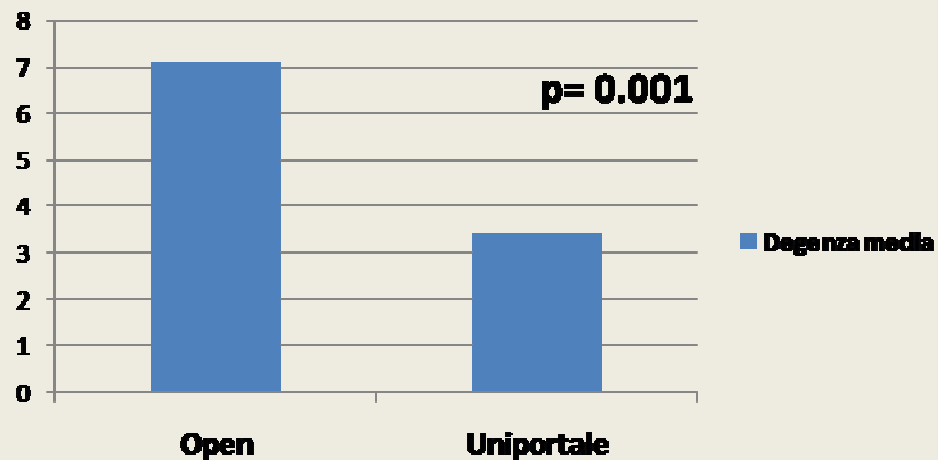
VAS Lobectomie



Drenaggio post operatorio



Degenza postoperatoria



Conclusioni

Uniportal Vats lobectomy procedura sicura ed efficace

- **Incisione unica (minima invasività)**
- **No trocar (non compressione del nervo)**
- **Lobectomie in uniportale sembrano presentare vantaggi nel periodo postoperatorio**
- **Aumentando l'esperienza può diventare l'approccio di scelta**
- **Necessari studi outcome clinico**