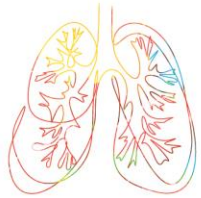


verso nuove  
soluzioni  
e percorsi  
per migliorare  
la salute e  
la gestione  
delle **ILD**

edra



Napoli, 18 - 19 Ottobre 2019



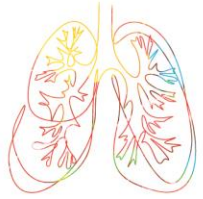
# LOCO-REGIONAL ANALGESIA VS GENERAL ANESTHESIA FOR SURGICAL LUNG BIOPSIES IN PATIENTS WITH SUSPECTED INTERSTITIAL LUNG DISEASE. A SINGLE CENTER PROSPECTIVE STUDY

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Molinette*



# BACKGROUND – WHY WE DID



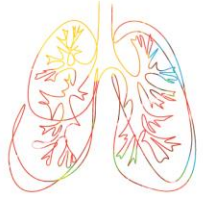
The **Interstitial lung disease** (ILD) is a group of diseases characterized by cellular proliferation, interstitial inflammation, fibrosis, or a combination of such findings within the alveolar wall that is not due to infection or cancer.

The idiopathic interstitial pneumonia is diagnosed if no cause of **ILD** is identified, and the most common idiopathic interstitial pneumonia is the **idiopathic pulmonary fibrosis** (IPF). The radiological and histological pattern of IPF termed “**usual interstitial pneumonia**” (UIP), consists of heterogeneous paraseptal fibrosis with architectural distortion.

According to current guidelines, when a **probable UIP, indeterminate**, or an **alternative** diagnosis is made on thin-section computed tomography (HRCT), **surgical biopsy** are recommended.



# BACKGROUND – WHY WE DID

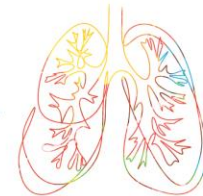


✓ **Surgical lung biopsy** for ILD is characterized by a fairly low but not negligible risk of **mortality and morbidity**.

- Mortality rates of up to 4%
- Morbidity rates of up to 28%
- Hospital post-operative length of stay of 4 days (median)



# BACKGROUND – WHY WE DID IT



- ✓ This risk are particularly related to the **general anesthesia**, to the **mechanical ventilation**, and the use of **neuromuscular blocking agents** and **opioids**.
- ✓ **Loco-regional** anesthesia, which maintained the **spontaneous ventilation**, may be associated with less post-operative adverse events, and should represent a valid strategy in also in high-risk ILD patient.

Articles

BJA

British Journal of Anaesthesia, 120 (5): 1090–1102 (2018)

doi: 10.1016/j.bja.2017.12.046  
Advance Access Publication Date: 9 March 2018  
Quality and patient safety

Post-anaesthesia pulmonary complications after use of muscle relaxants (POPULAR): a multicentre, prospective observational study

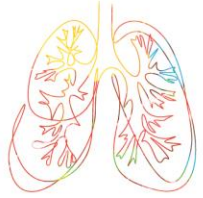


Eva Kirmeier, Lars I Eriksson, Heidrun Lewald, Malin Jonsson Fogelund, Andreas Hoeft, Markus Hollmann, Claude Meistelman, Jennifer M Hunter, Kurt Ulin, Manfred Blöbner, and the POPULAR Contributors

Association between intraoperative opioid administration and 30-day readmission: a pre-specified analysis of registry data from a healthcare network in New England

D. R. Long<sup>1</sup>, A. L. Lihn<sup>1,2</sup>, S. Friedrich<sup>1</sup>, F. T. Scheffenbichler<sup>1</sup>, K. C. Safavi<sup>1</sup>, S. M. Burns<sup>1</sup>, J. C. Schneider<sup>3</sup>, S. D. Grabitz<sup>1</sup>, T. T. Houle<sup>1</sup> and M. Eikermann<sup>4,5,\*</sup>

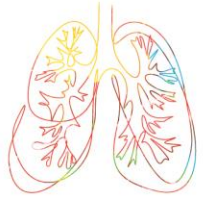




- ✓ To assess safety of lung biopsy in **Awake Anesthesia** in ILD patients.
- ✓ To evaluate post-operative clinical outcomes of **Awake Anesthesia** vs. **General Anesthesia** in ILD patients.



# Awake VATS – HOW WE DID IT



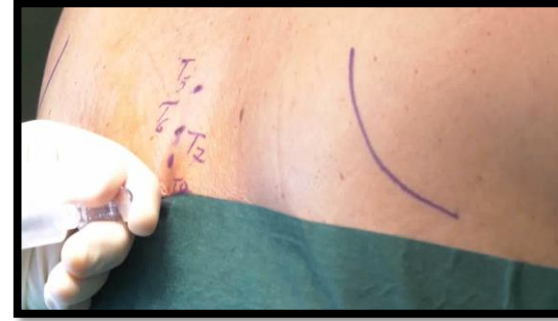
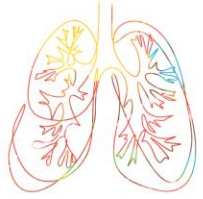
## AWAKE SURGERY PROTOCOL

- ✓ Bi-portal or Uniportal VATS (**faster procedure**)
- ✓ Three wedges resections (**accurate diagnosis**)
- ✓ 5 mm camera (**less pain**)
- ✓ Small bore chest drain – 15 Ch (**less pain**)
- ✓ Digital drain system (**early mobilization + early removal**)
  - ✓ CVP and Intravascular arterial catheter
  - ✓ NO Bladder catheterization (**early mobilization + early removal**)
  - ✓ Lidocaine Aerosol
  - ✓ Epidural catheter (**Opioid Free**; 6-7th thoracic spine interspace)
  - ✓ Spontaneous Breathing (**NO LARINGEAL MASK**)
  - ✓ Level of Sedation from 2 to 3 on Ramsey Scale (**NO DEEP SEDATION**)



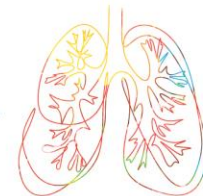


# Awake VATS – HOW WE DID IT





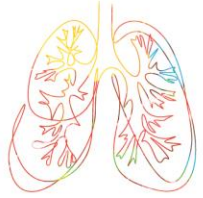
# METHODS – WHAT WE DID



<b>Type of Study</b>	Prospective Cohort Study (observational)
<b>Time span</b>	From January 2014 to October 2019
<b>Patients</b>	VATS Lung biopsy ILD
<b>Data</b>	Age, gender, smoking habit, BMI, FEV1, FEV1/FVC, DLCO, ASA, O2 dependence, corticosteroid, port number
<b>Anesthesia</b>	Loco-regional anesthesia (Awake-VATS) vs. General anesthesia
<b>Primary outcome</b>	Length of stay (LOS) ICU Post-operative Morbidity
<b>Secondary outcome</b>	Surgery Time; Anesthesia time; Drain time; Conversion to AG; PONV and post-operative pain.
<b>Statistical analysis</b>	Basic Statistics, dot-plot (Office 365) T-student test, Logistic Regression Analysis (STATA software)



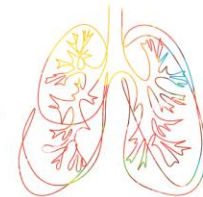
# RESULTS – WHAT WE FOUND: PATIENT CHARACTERISTICS (94 cases)



	Overall	Awake A.	General A.	P
<b>Surgery</b>				
<i>General A.</i>	40 (43%)			
<i>Awake A.</i>	54 (57%)			
<b>Age, mean ± SD</b>	61.2 ± 14.2	61.2 ± 15.6	61.3 ± 12.4	0.787
<b>Gender</b>				0.815
<i>Female</i>	34 (36%)	18 (33%)	16 (40%)	
<i>Male</i>	60 (64%)	36 (67%)	24 (60%)	
<b>Smoke</b>				0.815
<i>No</i>	30 (32%)	16 (30%)	14 (35%)	
<i>Yes</i>	64 (68%)	38 (70%)	26 (65%)	

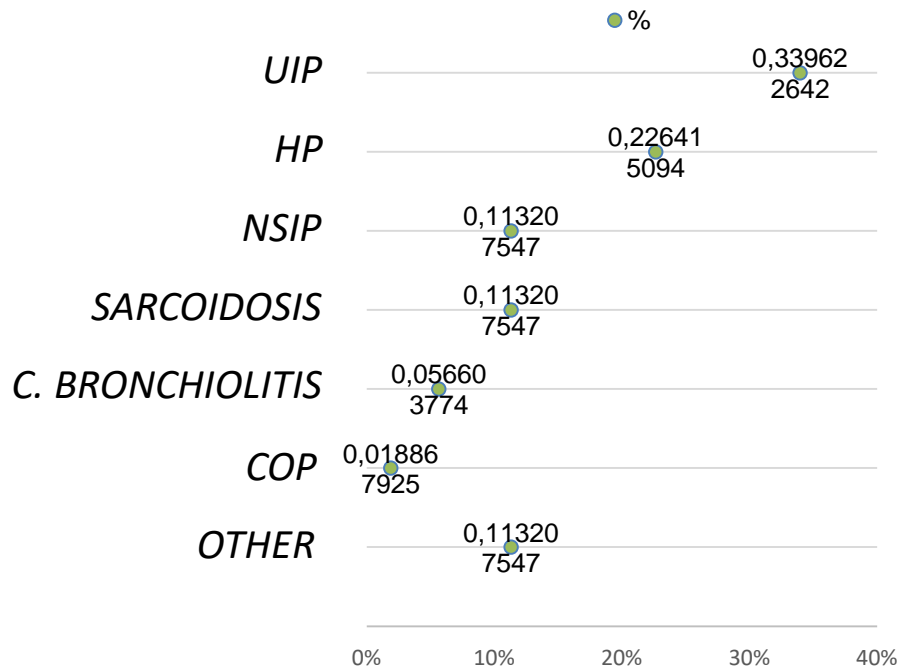


# RESULTS – WHAT WE FOUND

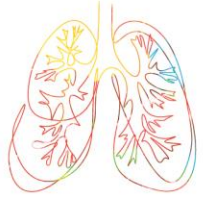


## PATHOLOGY (94 cases)

Adequacy of pathological specimens: **100%**



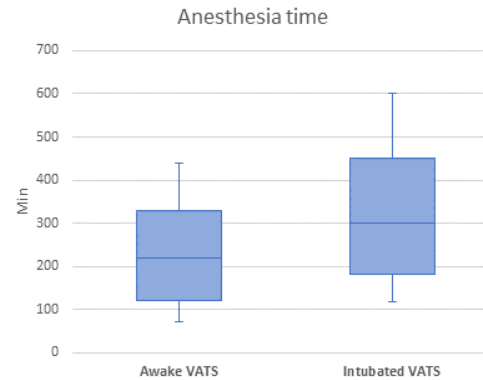
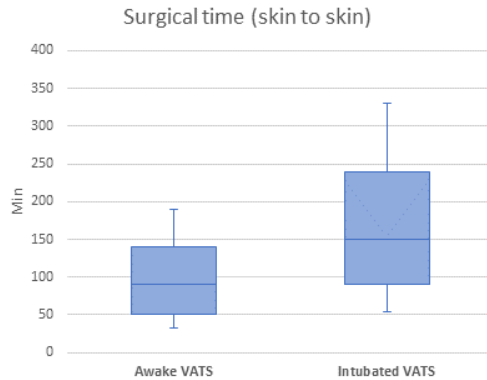
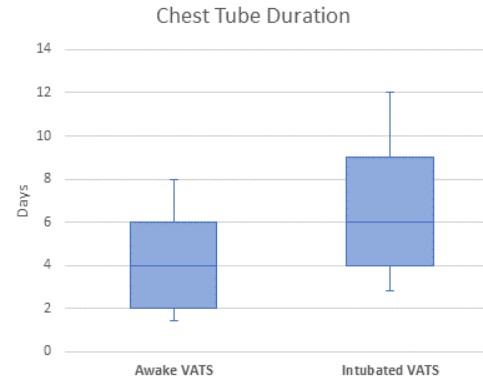
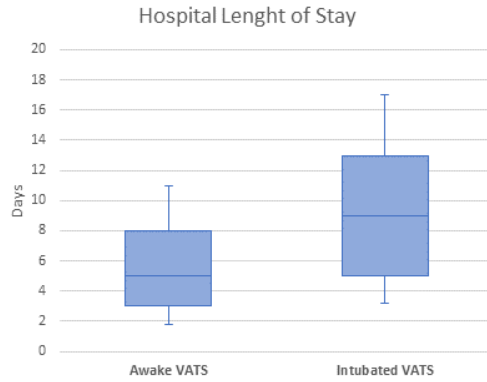
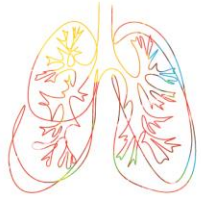
# RESULTS – WHAT WE FOUND



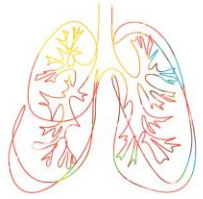
		General A.	%	Awake A.	%	Overall	%	P
<b>N</b>		40	43%	54	57%	94		
<b>ICU</b>								0,034
	No	40	87%	54	100%	89	95%	
	Yes	5	13%	0	0%	5	5%	
<b>COMPLICATION</b>								0,042
	No	40	90%	54	100%	90	96%	
	Yes	4	10%	0	0%	4	4%	
<b>Pain (rescue)</b>								0,761
	No	29	72%	38	71%	67	71%	
	Yes	11	28%	16	29%	27	29%	



# RESULTS – WHAT WE FOUND



# CONCLUSIONS – TAKE HOME MESSAGE



In our series, **Awake VATS** lung biopsy in **ILD** patients demonstrated to be safe and efficient.

The **loco-regional anesthesia** showed lower rate of complication, LOS, less ICU and less anesthesia and surgical time, compared to **general anesthesia**.

We did not observe any significant difference in term of PONV and post-operative pain

