



# SOLUNUM BULUŐMALARI

İZMİR

23-24 Eylül 2023  
Mövenpick Hotel, İzmir

# MINİMAL İNVAZİV GÖĞÜS CERRAHİSİ OLGU ÖRNEKLERİ

PROF.DR.MUZAFFER METİN  
SBÜ ULUSLAR ARASI TIP FAKÜLTESİ  
GÖĞÜS CERRAHİSİ ABD  
YEDİKULE SUAM

# Minimal İnvaziv Torasik Cerrahi Nedir?



Minimal İnvaziv Cerrahi klasik torakotomi ile yapılan operasyonların video yardımı ile küçük kesilerden yapılmasıdır.

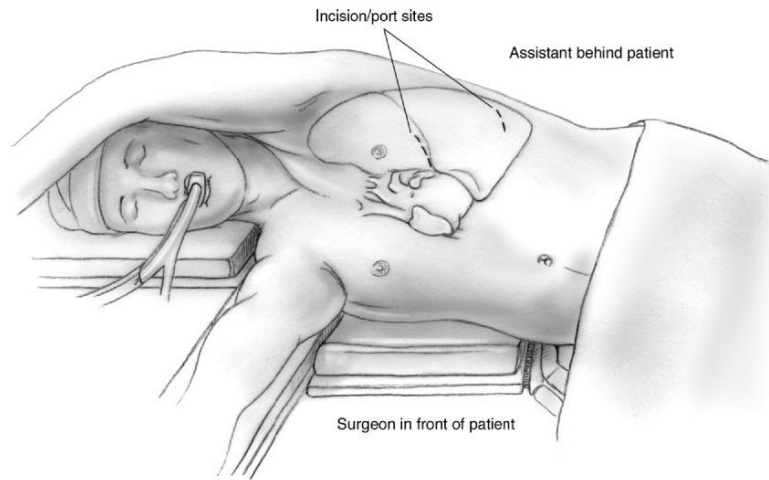
**VATS** ( Video assisted thoracic surgery)

- Kamera Yardımı ile yapılan ameliyatlara

**RATS** ( robotic assisted thoracic surgery)

- Bilgisayar yardımı ile cerrahi enstrumanların kontrollüne

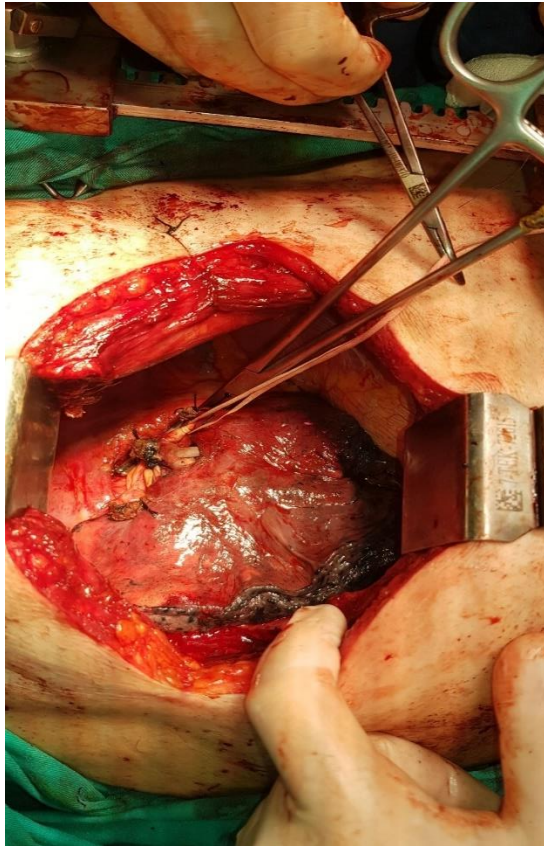




**FIGURE 32.2** Positioning and port placement. Patient is placed in the lateral decubitus position. Our approach uses incisions that are placed in (1) the 7th or 8th intercostal space along the posterior axillary line, (2) the 5th or 6th intercostal space anteriorly. (Reprinted from Pham D, Balderson S, D'Amico TA. Technique of thoroscopic segmentectomy. *Oper Tech Thorac Cardiovasc Surg* 2008;13(3):188–203. Copyright © 2008 Elsevier. With permission.)



# Neden VATS ?



# Tek port VATS



# MITTS Avantajları



- ✓ Kısa yatış süresi
- ✓ Daha az ağrı
- ✓ Postoperatif erken taburculuk
- ✓ Daha az intraoperatif kanama

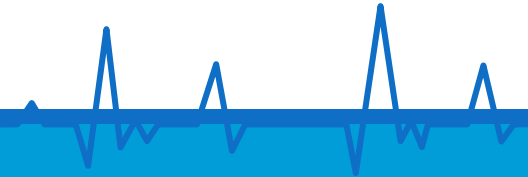


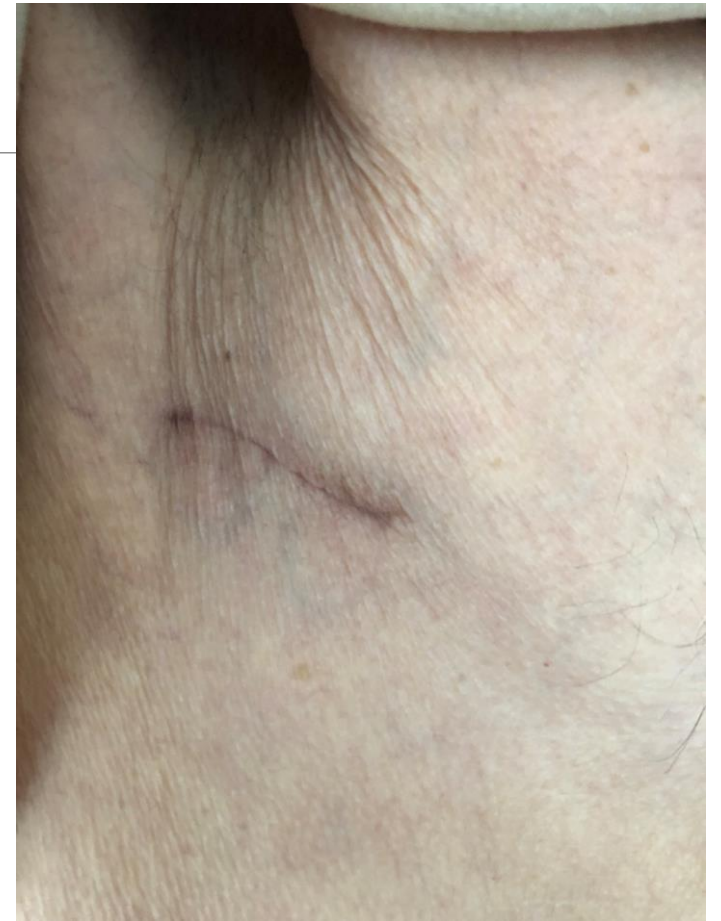
## Hasta Açısından

- ✓ Morbititelerin daha az olması
- ✓ Kas fonksiyonlarının korunması
- ✓ Uzun dönem sağkalım

## Cerrah Açısından

- ✓ Daha Kolay Öğrenim
- ✓ Apikal ve Bazal Alanlara Kolay Ulaşım





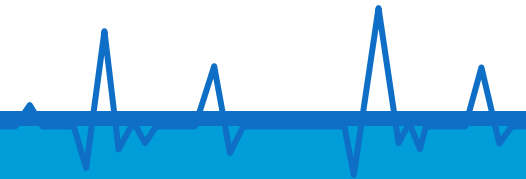
TEK PORT RLL

# VATS Ne Yapabiliriz

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**Tanısal İşlemler**

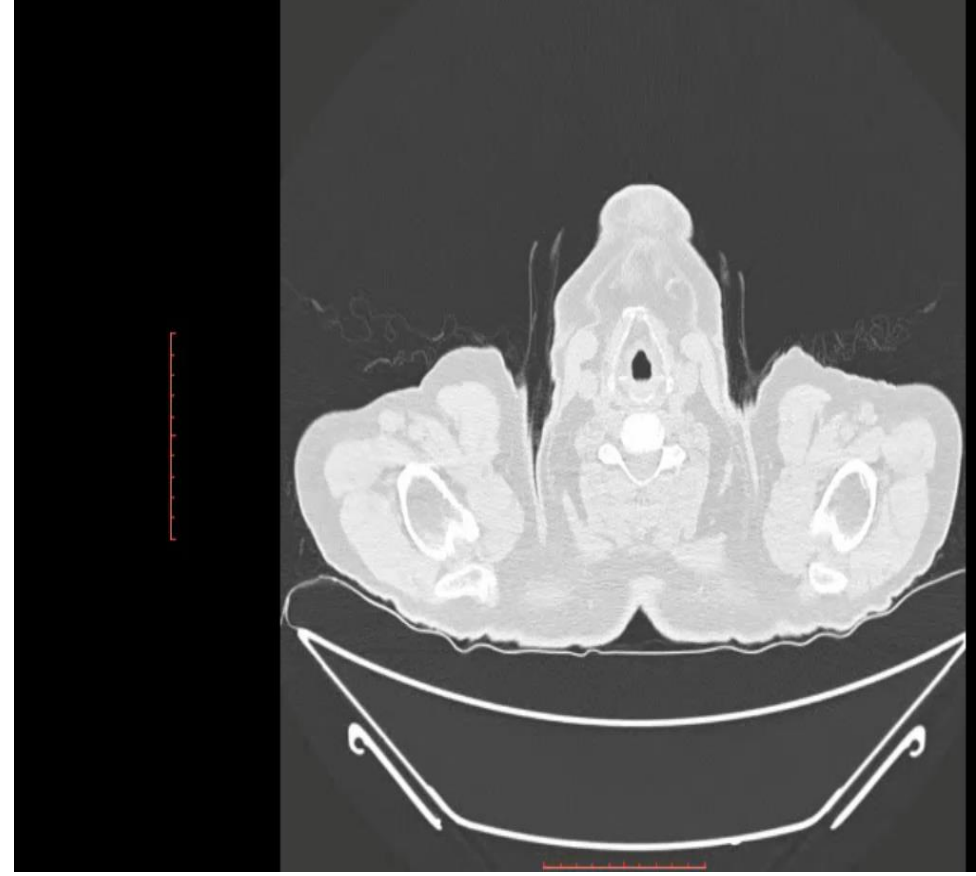
**Terapötik**



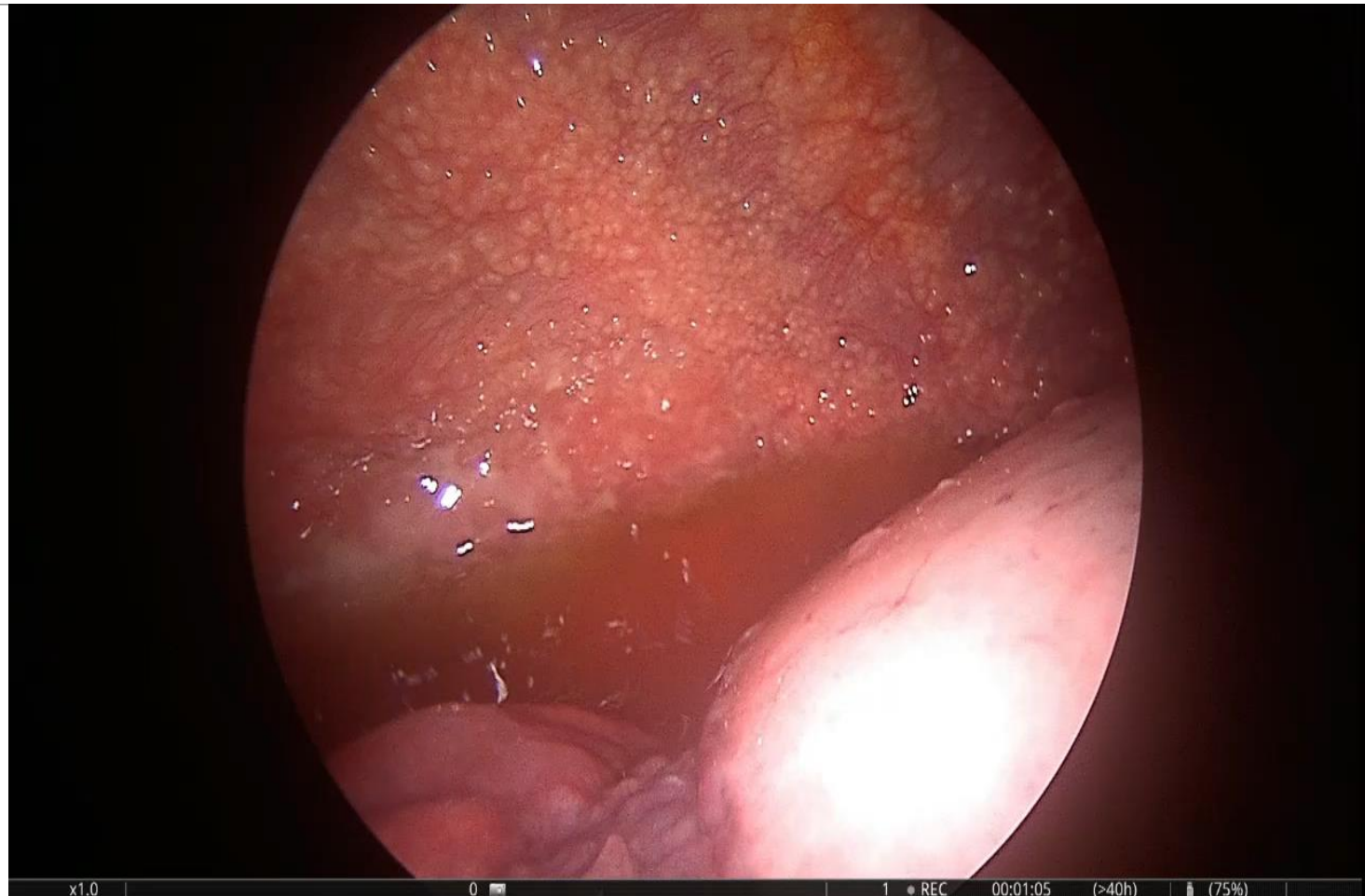
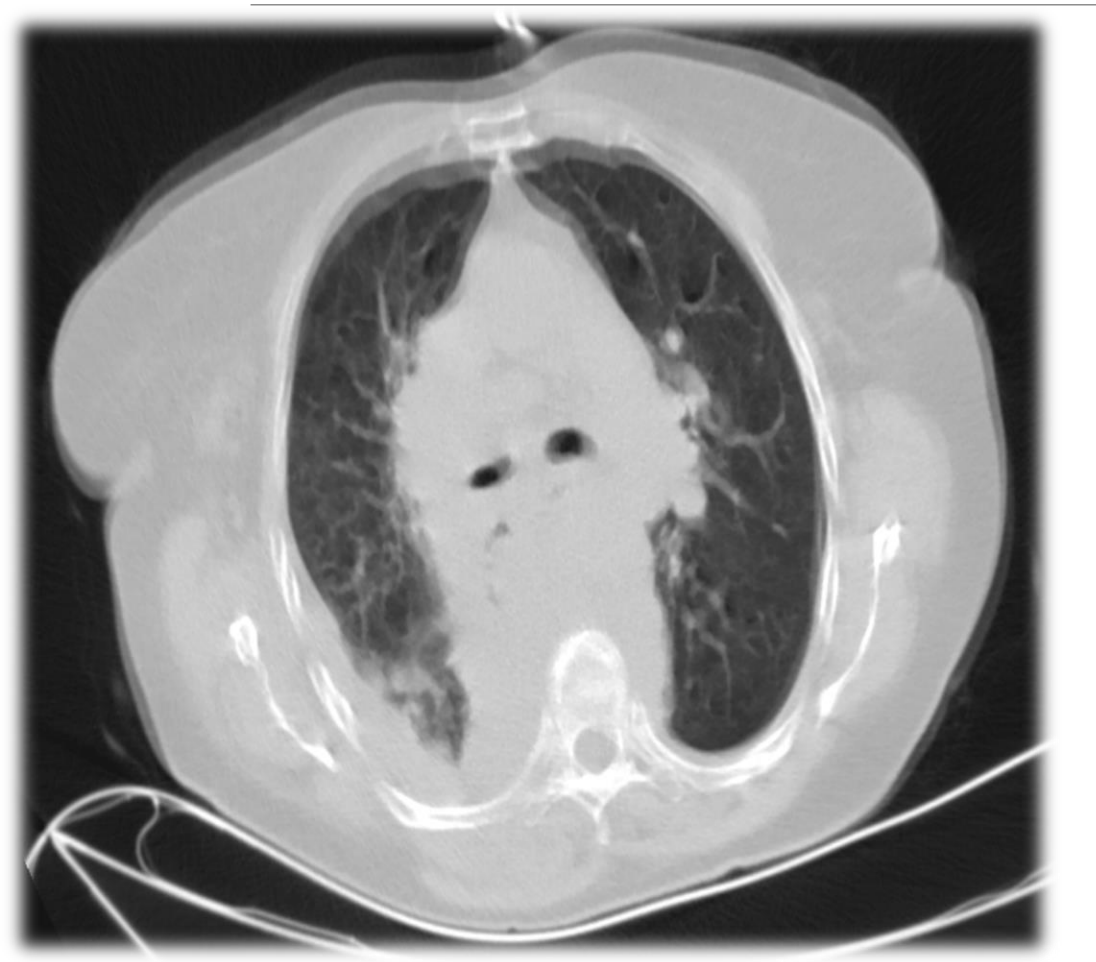


# Akciğer Biyopsisi/VATS BİOPSİ

- Cerrahi akciğer biyopsi diffüz intertisyel akciğer hastalığında detaylı tanı için önerilen altın standart yöntemdir
- İAH 'da en az 2 farklı lobtan biyopsi alınır



# Pleural Nodules



x1.0 | 0 | 1 • REC | 00:01:05 (>40h) | (75%)

# VATS DELOKÜLASYON/DEKORTİKASYON

37 yaş, Erkek hasta,

Ateş (39 C), yan ağrısı

03.01.2022 Acil servise  
başvuru

Torasentezde ampiyem  
saptanıp Tüp torakostomi  
uygulanıyor

350 cc drenaj



Ornevan Laboratuvarı TEKNİK SONUÇLARI

İsteyen Servis : Acil Poliklinik İsteyen

Barkodu : 111145231873 İstem Zamanı 03.01.2022 18:37 Barkod Zamanı 03.01.2022 18:37 Örnek Alma

Başvuru No : 2022 / 5682

Tetkik	Sonuç	Ünite	Referans Değerler
Glukoz (Serum)	↑ 303	mg/dl	70 - 110
Kan üre azotu (BUN)	22	mg/dl	10 - 50
Kreatinin	0.75	mg/dl	0.30 - 1.2
GFR	118.0	ml/dk/1.73 m2	70 - 140
Protein (Serum)	77.9	g/L	60 - 85
Albümin (Serum)	37.7	g/L	32 - 52
Kalsiyum (Ca)	9.1	mg/dl	8.6 - 10.6
Sodyum (Na) (serum ve vücut sıvılarında, herbir)	↓ 132	mEq/L	133 - 150
Klor (Cl)	96	mmo/L	95 - 115
Bilirubin (total/direkt)	0.53	mg/dl	0 - 1.2
BİLİRUBİN (İNDREKT)	0.25	mg/dl	0 - 0.8
Aspartat transaminaz (AST)	11	U/L	< 50
Alanin aminotransferaz (ALT)	18	U/L	< 50
Gamma glutamil transferaz (GGT)	↑ 126	U/L	< 80
Laktik Dehidrogenaz (LDH) (Serum)	146	U/L	< 247
CRP	310.6	mg/L	riskli: >5 Normali: 0-5
BİLİRUBİN DIREKT	0.28	mg/dl	0 - 0.5

İsteyen Servis : Acil Poliklinik İsteyen

Barkodu : 140145231873 İstem Zamanı 03.01.2022 18:37 Barkod Zamanı 03.01.2022 18:37 Örnek Alma

Başvuru No : 2022 / 5682

Tetkik	Sonuç	Ünite	Referans Değerler
Tam Kan (Hemogram)			
WBC	↑ 23.95	10e3/uL	4 - 10
RBC	4.63	10e6/uL	3.5 - 5.5
HGB	13.4	g/dL	11 - 16
HCT	40.1	%	37 - 54
MCV	86.6	fL	80 - 100
MCH	29	pg	27 - 34
MCHC	33.4	g/dL	32 - 36
RDW-CV	12.6	%	11 - 16
RDW-SD	37.9	%	35 - 56
PLT	↑ 589	10e3/uL	150 - 450
PCT	↑ 0.42	%	0.108 - 0.282
MPV	7.2	fL	6.5 - 12

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05.01.2022

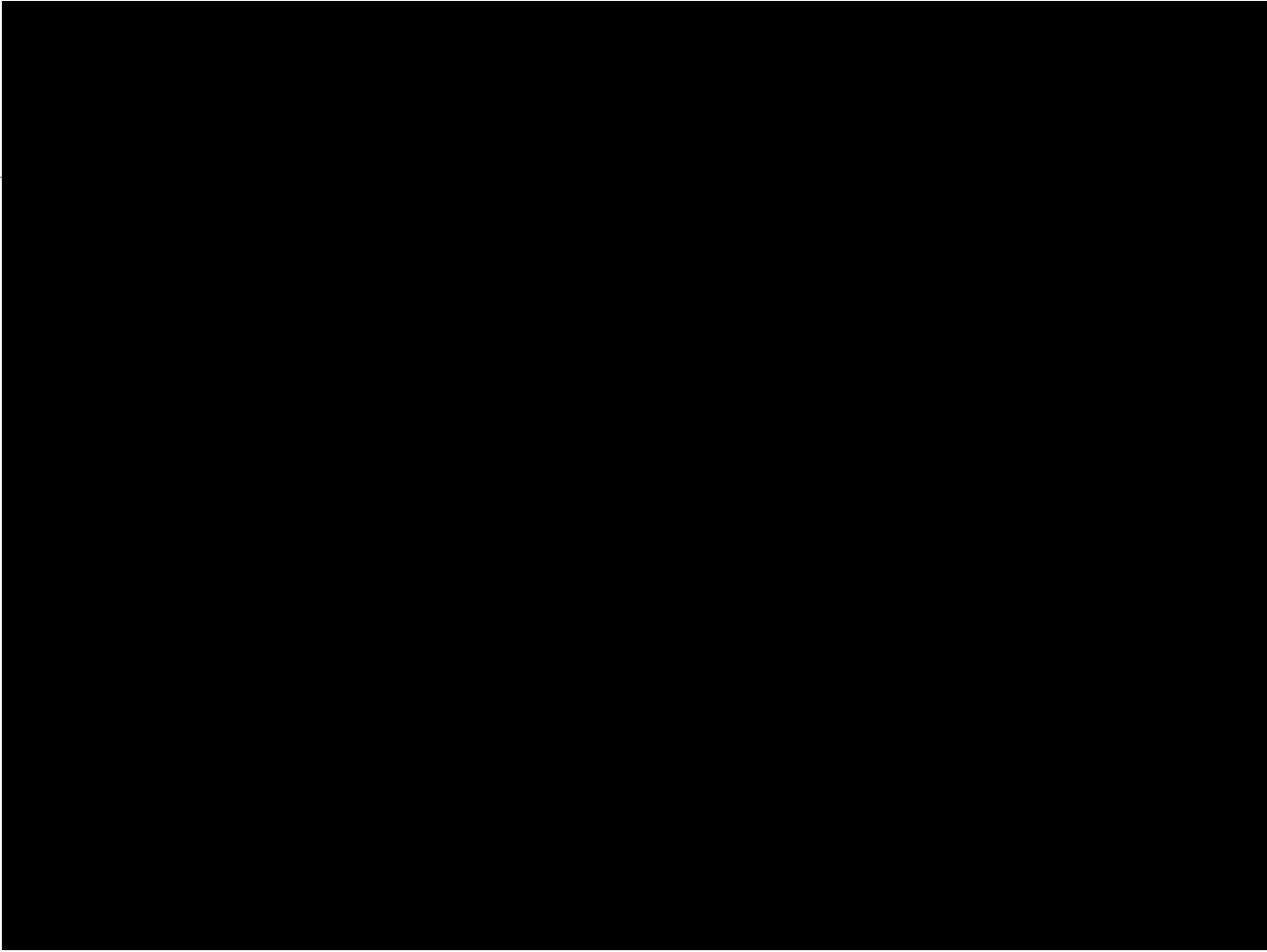
2 gndr 100 cc drenaj mevcut, BT isteniyor,

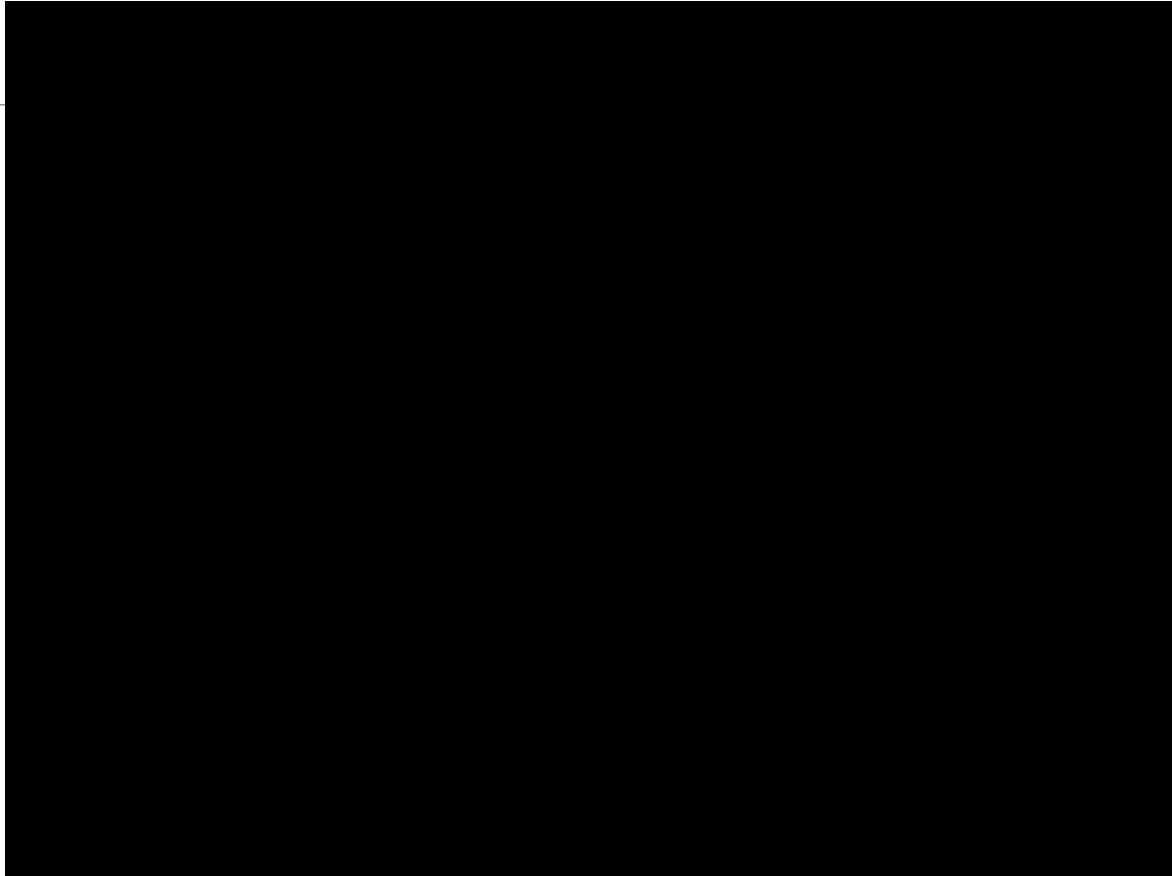


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Delokulasyon amacıyla VATS planlanıyor







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Postop 1.gün: ateş düşüyor. Hasta rahatlıyor, 2.gün dren çekiliyor





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Postop 5.gün TABURCU



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Mikroskopi :

Histokimyasal Boyama Panel Sonuçları :

İmmunhistokimya Boyama Panel Sonuçları :

Frozen Tanı :

Histopatolojik Tanılar / Sitopatolojik Tanılar : Sağ Paryetal Plevra Rezeksiyonu: Kronik aktif fibröz/ fibrinöz plörit, supuratif iltihap

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Postop 2.ay



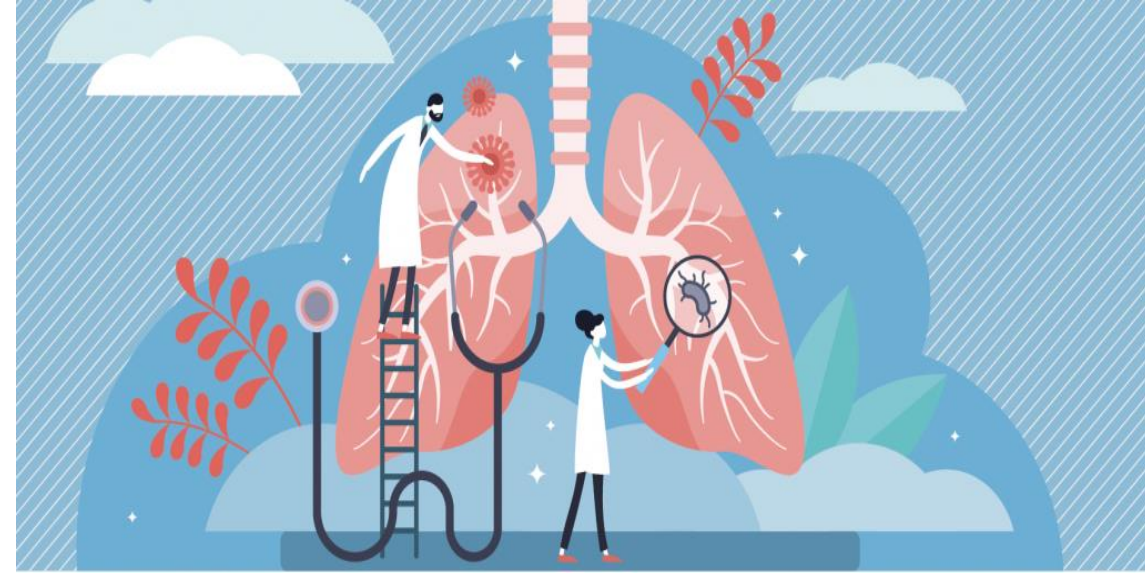
# Akciğer Kanseri



Akciğer kanserli hastaların ancak **%15'ine** erken evrede tanı konulabilmektedir.

Evre 1 KHDAK'de ise hastalarının **%65'inin** tedavi olabileme şansı olabilmektedir

Bu hastalıkta en iyi tedavi şansı **CERRAHİ** rezeksiyondur.

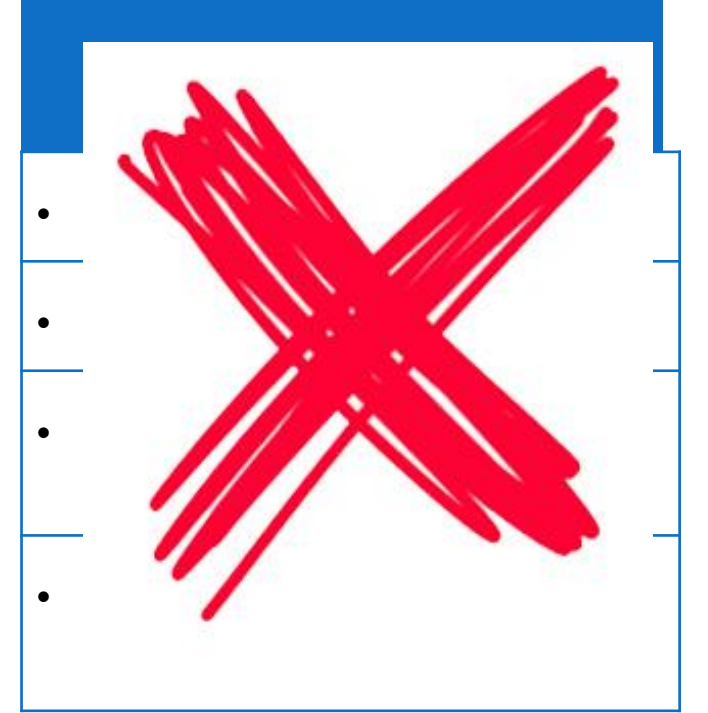


# VATS REZEKSİYON



## Endikasyonlar

- Erken Evre Akciğer Kanseri
- Tümör Çapı <6 cm
- Benign Hastalıkları (Bül, Sekestrasyon)



# VATS Segmentektomi



Tümör çapının 2 cm veya daha küçük olması

Kısıtlı akciğer kapasitesi olan hastalarda (FEV1 beklenenin %50'sinden az olması)

Tümörün anatomik olarak segment rezeksiyonuna uygun olması gerekmektedir.

***Lokal Rekürrens?***



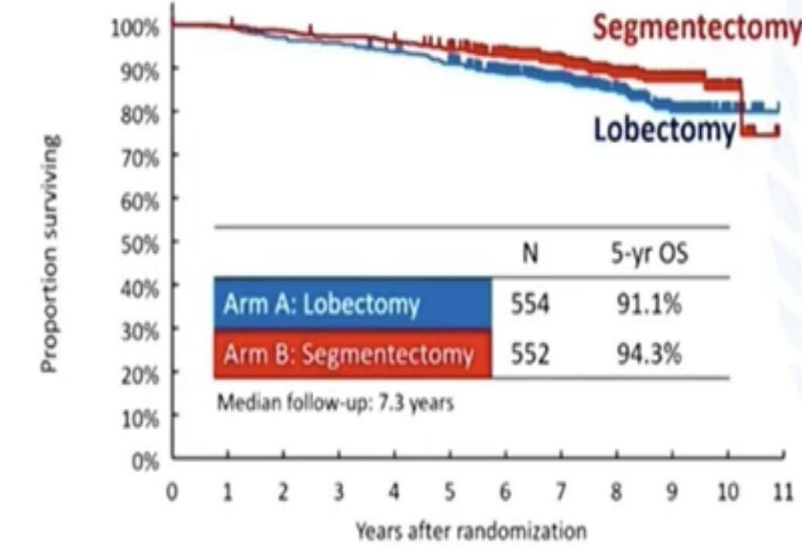
# JCOG0802/WJOG4607L



## Evre 1a/b Tümörlerde

- Genel sağkalım Segmentektomi > Lobektomi
- Segmentektomi için nodal negatifliğin sağlanması (f/s çalışılması)
- Radikal LN diseksiyonu

## Result 1. Overall survival (primary endpoint)



HR: 0.663  
95% CI: 0.474–0.927  
one-sided

P < 0.0001 for non-inferiority  
P = 0.0082 for superiority

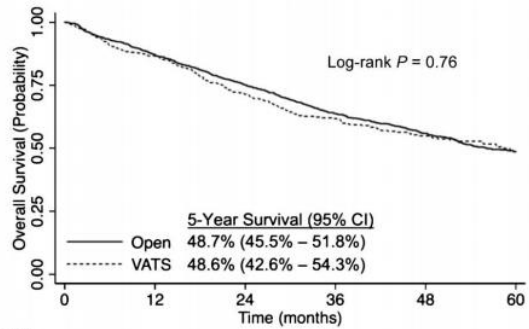
	No. at Risk	0	1	2	3	4	5	6	7	8	9	10	11
Lobectomy	554	550	537	530	515	495	426	322	190	90	23	0	
Segmentectomy	552	549	543	534	528	512	457	332	202	104	25	0	

# VATS Gerekli Mi?

## A National Analysis of Short-term Outcomes and Long-term Survival Following Thoracoscopic Versus Open Lobectomy for Clinical Stage II Non-Small-Cell Lung Cancer

Chi-Fu Jeffrey Yang, MD,<sup>†</sup> Arvind Kumar, BS,\* John Z. Deng, BS,<sup>†</sup> Vignesh Raman, MD,\*  
Natalie S. Lui, MD,<sup>†</sup> Thomas A. D'Amico, MD,\* and Mark F. Berry, MD<sup>†‡</sup>

1559 hasta



### VATS vs Torakotomi

- Lenf nodu upstage % 12.0 vs %10.5  
p= 0.41

- **30 Gün Mortalite % 2.3 vs %3.1**  
**p=0.31**

5-yıl sağkalım : % 48.6 vs %48.7, p=0.76

HR VATS : 1.08, 95% CI: 0.90–1.30, p=0.39

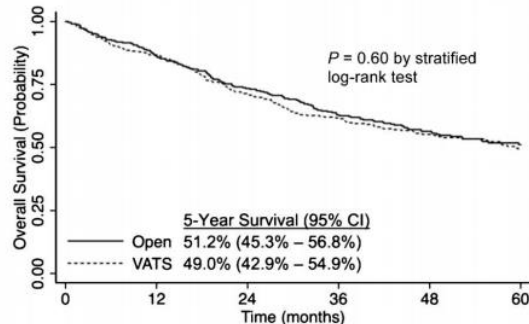


TABLE 5. Open Versus VATS Converted to Open Lobectomy for Patients With cT1-2, N1, M0 NSCLC: Perioperative and Postoperative Data

Variable	Total Cohort			Propensity Score-matched Analysis		
	Open (N = 1,204)	VATS Converted to Open (N = 73)	P	Open (N = 70)	VATS Converted to Open (N = 70)	P
<b>Treatment specifics</b>						
Days to definitive surgery (IQR)	33 (15,50)	34 (16,49)	0.51	33.5 (12,57)	34 (16,49)	0.93
Days to adjuvant therapy (IQR)						
Adjuvant radiotherapy*	111.5 (70.5,176.5)	93.5 (54.5,184)	0.49	114 (75,186)	93.5 (54.5,184)	0.32
Adjuvant chemotherapy <sup>†</sup>	76 (57,105)	87 (61,106)	0.57	88 (65.5,117)	86 (58,107)	0.87
Adjuvant therapy, n (%)			0.56			1.00
Adjuvant radiotherapy	19 (1.6%)	<10		0 (0.0%)	<10	
Adjuvant chemotherapy	536 (44.5%)	27 (37.0%)		30 (42.9%)	26 (37.1%)	
Adjuvant chemoradiation	135 (11.2%)	11 (15.1%)		11 (15.7%)	11 (15.7%)	
<b>Surgical endpoints</b>						
Nodes removed (IQR)	10 (6,16)	14 (8,21)	0.003	13 (7,20)	14 (9,21)	0.89
Surgical margins, n (%)						0.38
Negative	1110 (92.2%)	69 (94.5%)	0.52	64 (91.4%)	66 (94.3%)	
Positive margin-microscopic	42 (3.5%)	<10		<10	<10	
Positive margin-macroscopic	<10	0 (0.0%)		0 (0.0%)	0 (0.0%)	
<b>Short-term outcomes</b>						
30-d mortality, n (%)	37 (3.1%)	<10	0.62	<10	<10	1.00
30-d readmission, n (%)	71 (5.9%)	<10	0.74	<10	<10	1.00
Hospital length of stay (days, IQR)	6 (4,9)	6 (4,9)	0.95	6 (5,9)	6 (4,9)	0.55
<b>Tumor characteristics</b>						
Pathologic T status, n (%) <sup>‡</sup>			0.43			0.88
T0 (in situ)	<10	0 (0.0%)		0 (0.0%)	0 (0.0%)	
T1	475 (39.5%)	36 (49.3%)		32 (45.7%)	35 (50.0%)	
T2	619 (51.4%)	31 (42.5%)		31 (44.2%)	30 (42.9%)	
T3	57 (4.7%)	<10		<10	<10	
T4	16 (1.3%)	<10		<10	<10	
Pathologic N status, n (%) <sup>§</sup>			0.071			0.38
N0	250 (20.8%)	14 (19.2%)		14 (20.0%)	13 (18.6%)	
N1	790 (65.6%)	44 (60.3%)		48 (68.6%)	42 (60.0%)	
N2	124 (10.3%)	14 (19.2%)		<10	14 (20.0%)	
N3	12 (1.0%)	0 (0.0%)		0 (0.0%)	0 (0.0%)	

\*Data available for 164 patients from the total cohort, 23 patients in the propensity score-matched analysis.

†Data available for 690 patients from the total cohort, 75 patients in the propensity score-matched analysis.

‡Data available for 1,241 patients from the total cohort, 138 patients in the propensity score-matched analysis.

§Data available for 1,248 patients from the total cohort, 138 patients in the propensity score-matched analysis.



# Uniportal VATS?



## Uniportal versus multiportal thoracoscopic lobectomy

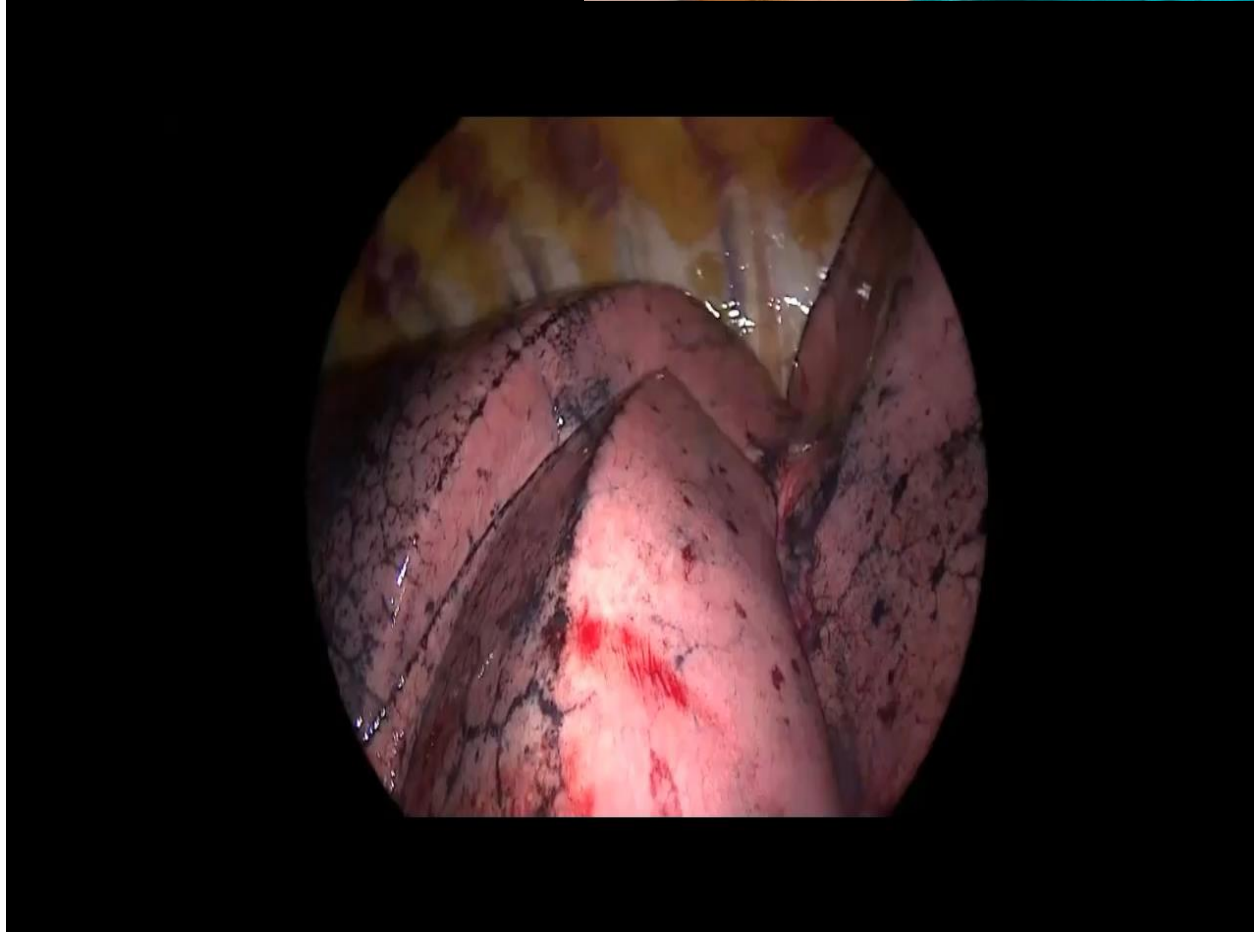
Ergonomic evaluation and perioperative outcomes from a randomized and controlled trial

Jie Yao, MD<sup>1</sup>, Zhibo Chang, MD, Lin Zhu, MS, Junqiang Fan, MD\*

### Surgical and postoperative data.

Characteristic	UVATS (n=35)	MVATS (n=34)	P value
Surgical time, min	96.77 ± 24.38	95.41 ± 20.11	.810
Blood loss, mL	34.14 ± 25.01	51.47 ± 40.84	.048
ICU, d	0	0	
Hospital stay, d	3.80 ± 0.90	4.65 ± 2.33	.144
Chest tube duration, d	2.71 ± 0.83 (2–6)	3.26 ± 1.96 (1–11)	.343
Lymph nodes harvested	31.97 ± 9.18 (17–53)	30.50 ± 9.35 (15–56)	.512
Positive lymph nodes (%)	8 (0.71)	50 (4.82)	.547
Total drainage in 24hours, mL	227.94 ± 117.69	308.24 ± 145.13	.018
Conversion rate	0	0	
Mortality	0	0	
Complications (%)	4 (11.4)	9 (26.5)	.276
Air leak (>6 days)	0	4 (11.8)	
Atrial fibrillation	0	0	
Bleeding	0	0	
Atelectasis	0	0	
Bronchopleural fistula	0	0	
Death	0	0	
Pneumonia	0	0	
Chylothorax	0	1 (2.9)	
Reoperation	0	0	
Reinsertion of chest tube	4 (11.4)	3 (8.8)	
Hoarseness	0	1 (2.9)	
Lung function			
FEV <sub>1</sub> , L (3 wks)	1.87 ± 0.42	1.89 ± 0.45	.866
FEV <sub>1</sub> (%) (3 wks)	72.39 ± 14.41	72.80 ± 13.02	.901
FEV <sub>1</sub> , L (3 mo)	2.11 ± 0.49	2.17 ± 0.52	.659
FEV <sub>1</sub> (%) (3 months)	82.20 ± 16.47	82.14 ± 14.14	.988

FEV<sub>1</sub> (%) = first second forced expiratory volume accounts for the percentage of FVC (forced vital capacity), FEV<sub>1</sub> (L) = forced expiratory volume in 1 second, ICU = intensive care unit, MVATS = multiple-portal video-assisted thoracoscopic surgery, UVATS = uniportal video-assisted thoracoscopic surgery.





# Ne Kadar Agresif Olmalıyız?

- Onkolojik cerrahideki ana prensip R0 rezeksiyon gerçekleştirirken; parankim koruyucu cerrahi yapmaktır.
- Pnömonektomi gibi mortalite ve morbidite oranı yüksek rezeksiyonlardan olabildiğince kaçınmak gereklidir.

## Original Article

### Sleeve lobectomy compared with pneumonectomy for operable centrally located non-small cell lung cancer: a meta-analysis

Zhengjun Li<sup>1</sup>, Wei Chen<sup>2</sup>, Mozhu Xia<sup>3</sup>, Hongxu Liu<sup>2</sup>, Yongyu Liu<sup>1</sup>, Ilhan Inci<sup>4</sup>, Fabio Davoli<sup>5</sup>, Ryuichi Waseda<sup>6</sup>, Pier Luigi Filosso<sup>7</sup>, Abby White<sup>8</sup>

Variables	No. of studies furnishing data	Results, %		OR (95% CI)	P value	I <sup>2</sup> , %
		SL	PN			
Operative mortality	13 ( <a href="#">8,10,11,17-19,23-28,30</a> )	2.62	6.30	0.40 (0.25–0.63)	<0.0001	0
30-day mortality	12 ( <a href="#">14-16,20-22,29,32-36</a> )	2.78	5.86	0.55 (0.32–0.96)	0.04	55
Local recurrence	15 ( <a href="#">8,10,13,16,17,19,21,25,27,28,30-34</a> )	15.65	22.81	1.09 (0.72–1.64)	0.69	50
Distant recurrence	9 ( <a href="#">10,21,27,28,30-34</a> )	19.81	30.64	0.61 (0.45–0.82)	0.001	0
Complication	15 ( <a href="#">10,13,14,16-21,24,28,29,31-33</a> )	29.39	30.58	1.07 (0.87–1.31)	0.55	27
Overall survival						
1-year	8 ( <a href="#">11,14,15,20,21,28,29,35</a> )	38.00	18.26	1.53 (1.31–1.80)	<0.00001	4
3-year	11 ( <a href="#">11,13,17,20,21,27-30,32,35</a> )	27.80	10.95	1.78 (1.47–2.17)	<0.00001	30
5-year	20 ( <a href="#">8,11,13,14,16-22,25-29,32-35</a> )	25.77	7.34	1.96 (1.70–2.27)	<0.00001	43
Subgroup overall survival (N0, N1 and N2 patients)						
3-year (N2 patients)	3 ( <a href="#">13,17,22</a> )	29.78	19.51	1.12 (0.47–2.68)	0.79	35
5-year (N2 patients)	3 ( <a href="#">8,13,18</a> )	19.77	18.69	1.27 (0.65–2.45)	0.48	44
5-year (N0 and N1 patients)	5 ( <a href="#">8,13,17,18,22</a> )	57.77	37.29	2.14 (1.66–2.78)	<0.00001	13

# VATS Sleeve Rezeksiyon



World J Surg  
<https://doi.org/10.1007/s00268-020-05877-5>



SCIENTIFIC REVIEW

## Video-Assisted Thoracoscopic Sleeve Lobectomy for Centrally Located Non-small Cell Lung Cancer: A Meta-analysis

Han-Yu Deng<sup>1</sup> · Xiao-Ming Qiu<sup>1</sup> · Da-Xing Zhu<sup>1</sup> · Xiaojun Tang<sup>1</sup> · Qinghua Zhou<sup>1</sup>

**Table 2** Main outcomes extracted from the studies included in our meta-analysis

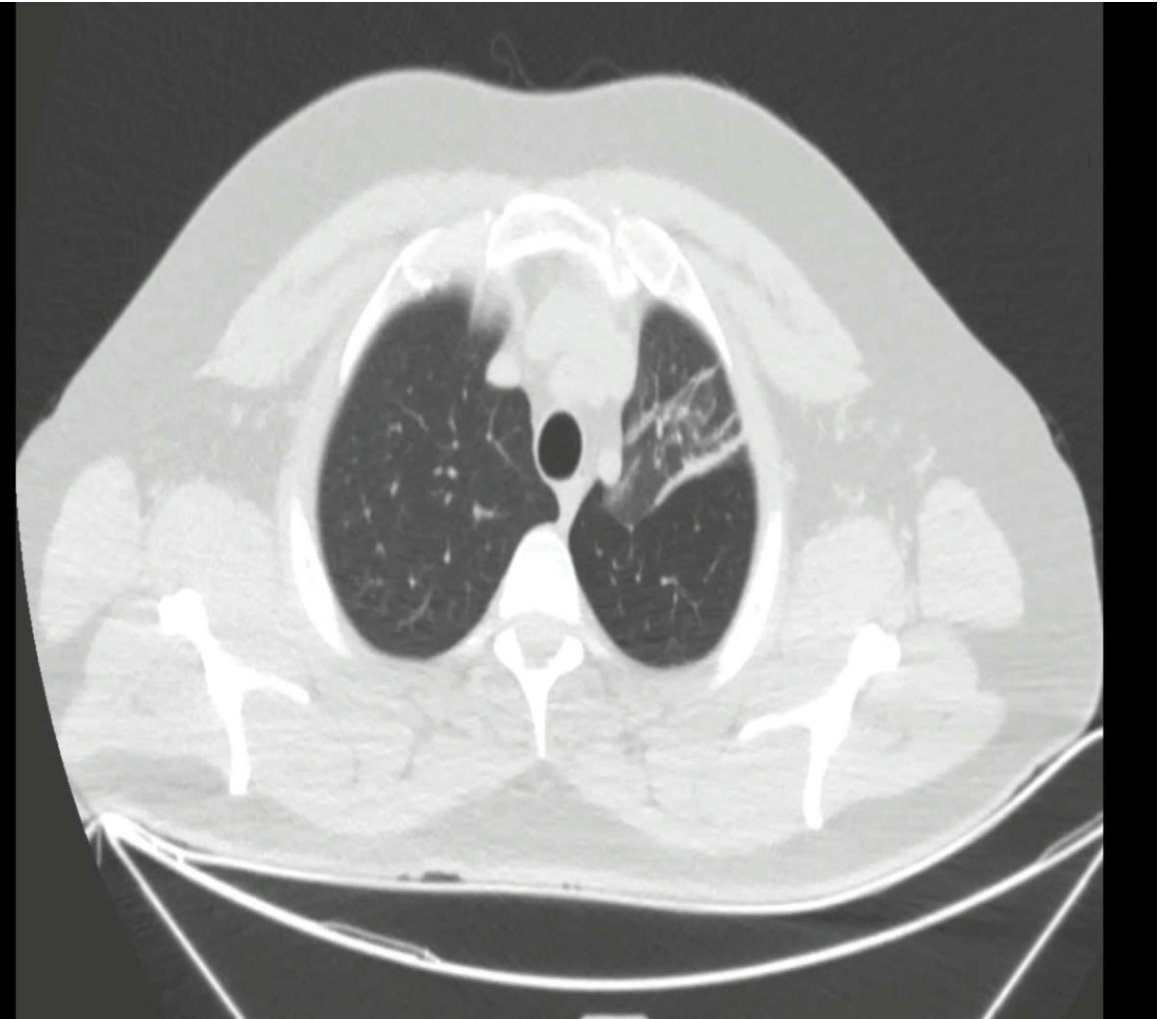
Studies	Blood loss (ml)		Number of lymph node dissected		Operation time (minute)		Postoperative hospital stay (day)		Complication rate <sup>a</sup>		3-year OS rate <sup>b</sup>		3-year PFS rate <sup>c</sup>	
	VATS group	Open group	VATS group	Open group	VATS group	Open group	VATS group	Open group	VATS group	Open group	VATS group	Open group	VATS group	Open group
[11]	133.3 ± 74.1	179.2 ± 101.9	12.3 ± 4.8	12.6 ± 3.8	198.8 ± 58.3	197.5 ± 59.3	6 ± 1.5	7 ± 1.5	5/67	12/104	49/23	76/40	44/28	62/54
[9]	227.7 ± 158.9	246.4 ± 79.9	21.3 ± 6.8	21.5 ± 11.5	300.3 ± 71.7	221 ± 48.7	9.2 ± 3.5	11.3 ± 7.2	NA	NA	31/8	26/13	23/16	19/20
[10]	182.5 ± 134.6	222.2 ± 130.4	22.9 ± 8.3	22.9 ± 9.9	291.5 ± 87.2	240 ± 47.8	NA	NA	10/28	11/28	25/13	23/26	25/13	21/18
[8]	166.7 ± 74.1	200 ± 222.2	10 ± 3.7	10.3 ± 5.2	240 ± 88.9	180 ± 88.9	5.7 ± 2.2	6.3 ± 2.2	3/18	1/20	20/1	20/1	11/10	12/9
[7]	406 ± 200	318 ± 198	25.7 ± 6.5	22 ± 8.3	226 ± 37	166 ± 40	11.6 ± 2.8	16.1 ± 4.9	1/9	10/31	7/3	26/15	NA	NA

OS overall survival; PFS progression-free survival; VATS video-assisted thoracoscopic surgery; NA not available

<sup>a</sup>Expressed as no. with complication/no. without complication;

<sup>b</sup>Expressed as no. alive/no. death;

<sup>c</sup>Expressed as no. progression-free/no. other conditions



# Pnöminektomi

İlk 30 günde mortaliteyi %5.7

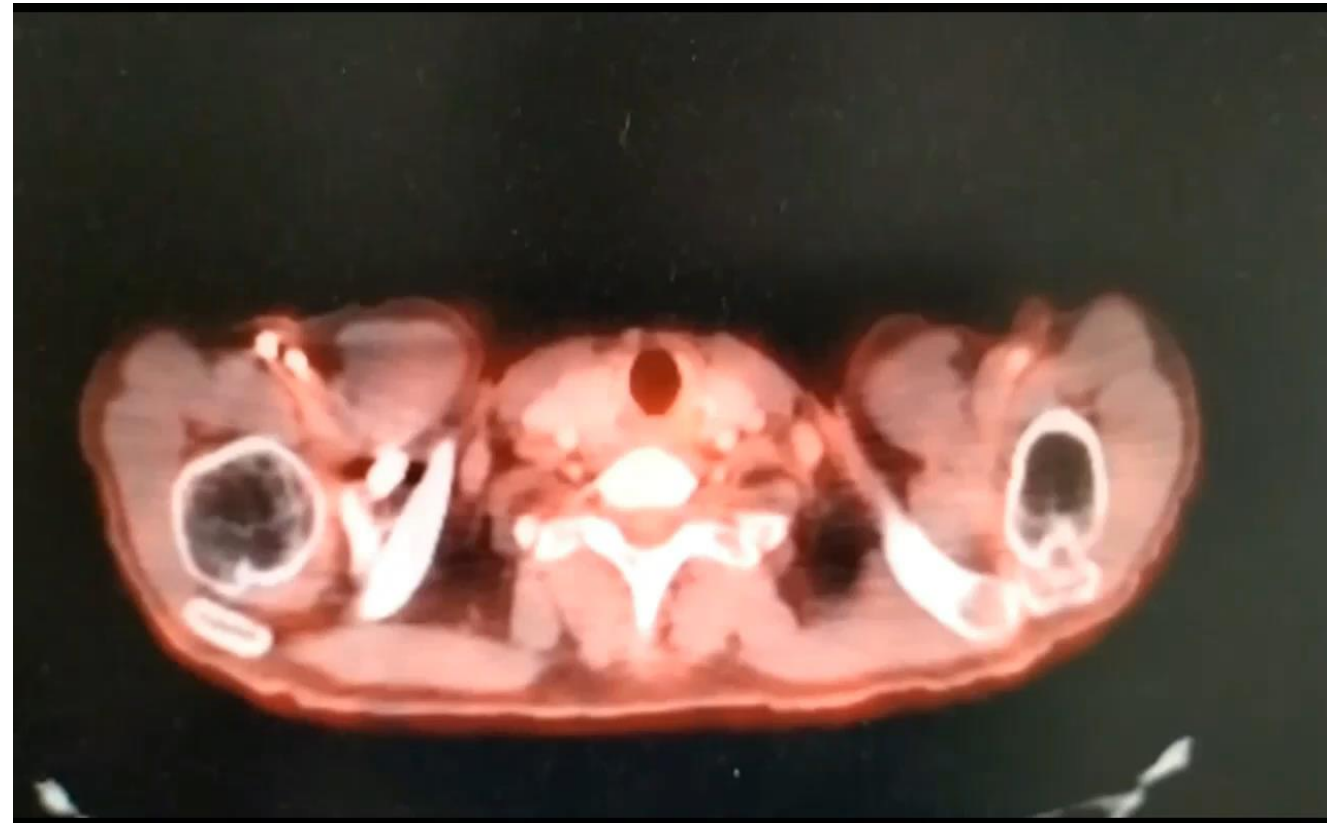
Komplikasyon oranını ise %33

## Mortalite Riskinin


- >65 Yaş
- İndüksiyon tedavisi
- ASA skorunun >3
- Sağ Rezeksiyon
- Ekstended akciğer rezeksiyonu

## Pneumonectomy for lung cancer: Contemporary national early morbidity and mortality outcomes

Pascal A. Thomas, MD, FECTS,<sup>a</sup> Julie Berbis, MD,<sup>b</sup> Jean-Marc Baste, MD,<sup>c</sup>  
Françoise Le Pimpec-Barthes, MD,<sup>d</sup> François Tronc, MD,<sup>e</sup> Pierre-Emmanuel Falcoz, MD,<sup>f</sup>



# Subxiphoid uniportal thoracoscopic pulmonary segmentectomy for stage I non-small cell lung cancer: Feasibility, quality of life and financial worthiness

Amr Abdellateef<sup>1,2</sup> , Xiaoyu Ma<sup>3</sup>, Zhigang Chen<sup>4</sup>, Liang Wu<sup>2</sup>, Jianqiao Cai<sup>2</sup> & Lei Jiang<sup>2</sup>

<sup>1</sup> Department of Cardiothoracic Surgery, Mansoura University Hospital, Mansoura School of Medicine, Mansoura University, Mansoura, Egypt

<sup>2</sup> Department of Thoracic Surgery, Shanghai Pulmonary Hospital, Tongji University School of Medicine, Shanghai, China

<sup>3</sup> Thoracic Surgery Department, Second Hospital of Hebei Medical University, Shijiazhuang, China

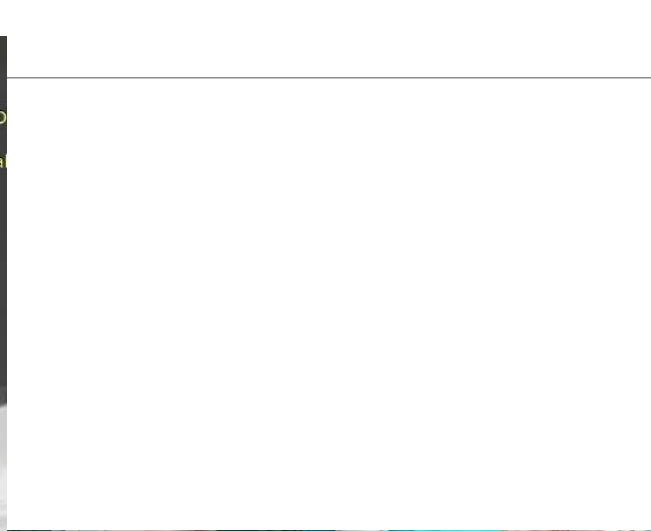
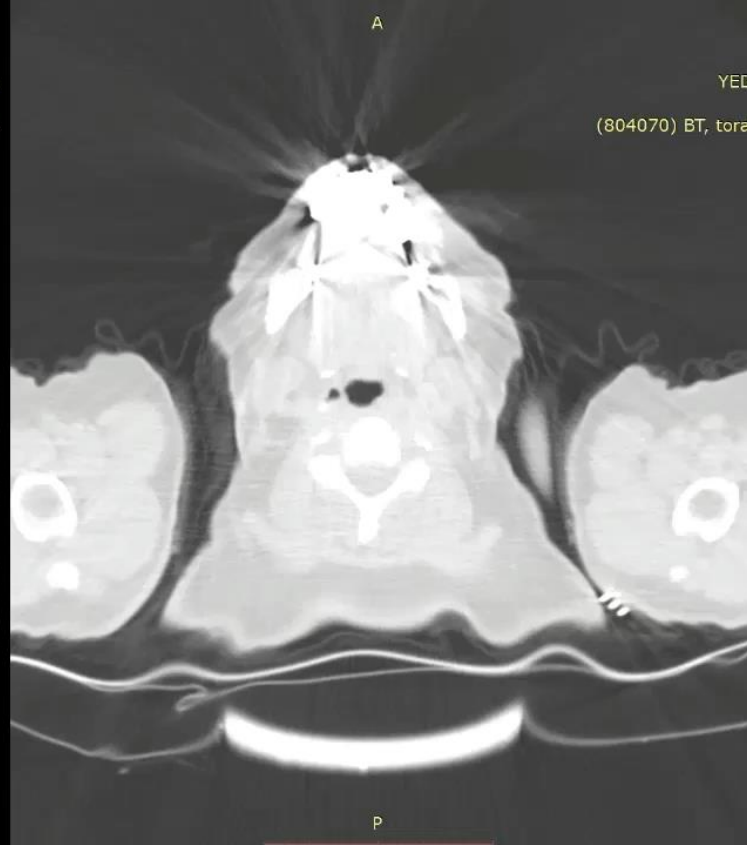
<sup>4</sup> Department of Anesthesiology, Shanghai Pulmonary Hospital, Tongji University School of Medicine, Shanghai, China



**Table 4** Postoperative pain scoring, quality of life, hospital cost

	Intercostal (mean ± SD)	Subxiphoid (mean ± SD)	P-value
Postoperative pain scoring			
Postoperative pain (POD) zero	4.51 ± 0.88	3.29 ± 1.14	<0.001
Postoperative pain (POD) 1	4.25 ± 0.61	2.68 ± 0.80	<0.001
Postoperative pain (POD) 3	2.1 ± 0.4	1.5 ± 1.01	<0.001
Postoperative pain before discharge	1.8 ± 0.36	0.94 ± 0.7	<0.001
Quality of life score			
Quality of life after three months	68.10 ± 2.55	66.49 ± 2	<0.001
Quality of life after six months	64.86 ± 2.21	63.17 ± 1.53	<0.001
Quality of life after one year	60.95 ± 1.36	60.22 ± 0.71	<0.001
Cost (expressed in RMB)			
Cost, median (min-max)	45 277 (35 967.69–66 711.48)	51 535 (34 535–61 100)	<0.001

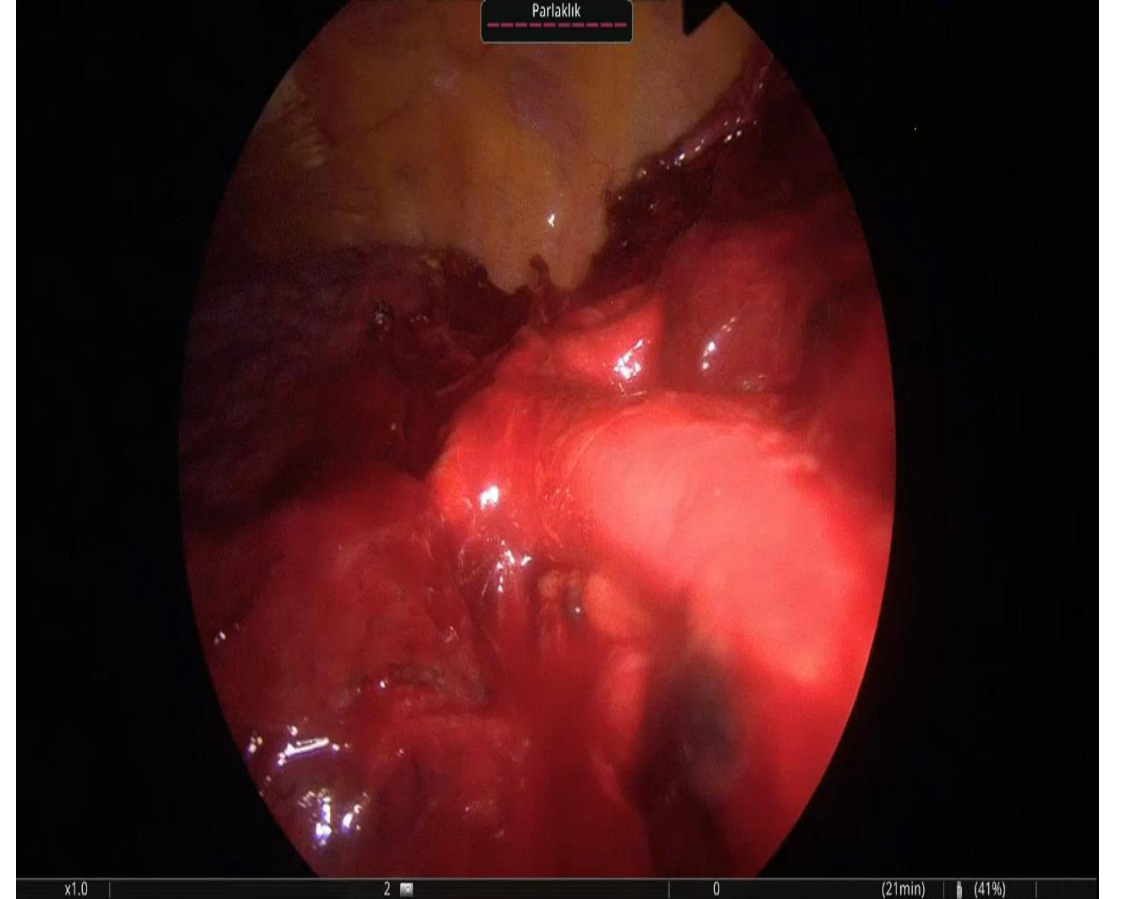
# Subksifoid Yaklaşım



# Uniportal Yaklaşımın Dezavantajı



- ✓ Öğrenim Zorluğu
- ✓ Özelleştirilmiş Aletlerin Gerekliliği
- ✓ Teknik Olarak Zor
- ✓ Aletlerin Sıkışması «Twister»
- ✓ Doğru Stapler Açılarını Bulmakta Zorluk





# Trakea Cerrahisi

**56 Yaş / Kadın**

**Komorbidite**

- Yok

**COVID sonrasında**

**uzamış entübasyon**





# HİPERHİDROZİS/Sempatektomi

Original Article | Published: 21 September 2019

Is there any relationship between quality of life and the level of sympathectomy in primary palmar hyperhidrosis? Single-center experience

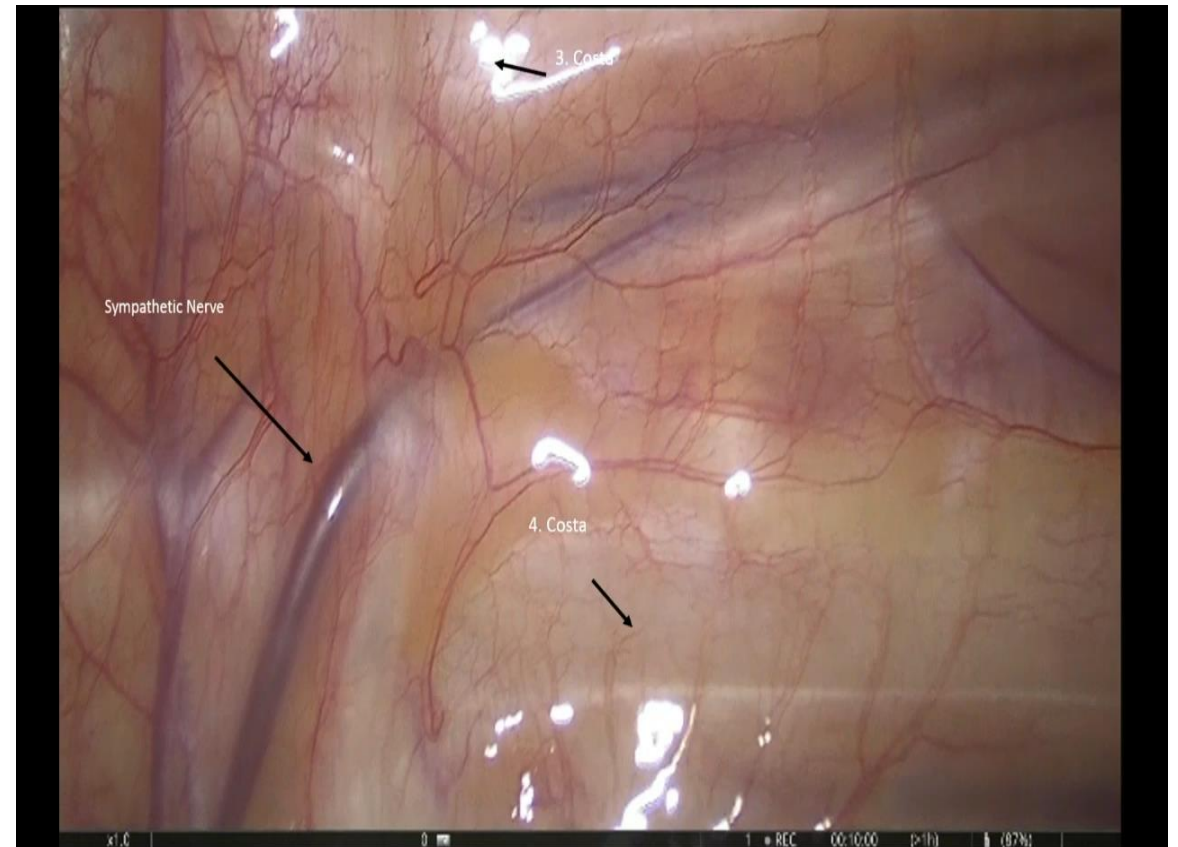
Mustafa Vedat Dogru , Celal Bugra Sezen, Oguz Girgin, Levent Cansever, Celalettin Ibrahim Kocaturk, Muzaffer Metin & Seyyit Ibrahim Dincer

*General Thoracic and Cardiovascular Surgery* 68, 273–279 (2020) | [Cite this article](#)

239 Accesses | 6 Citations | [Metrics](#)

**Table 3** Comparison of postoperative quality of life and surgical level

Variables	T2–4 [n (%)]	T3–4 [n (%)]	T3 [n (%)]	p value
<i>Postoperative quality of life</i>				
Very low	3 (100)	0	0	<0.001
Low	5 (83.3)	1 (16.7)	0	
Fair	17 (60.7)	3 (10.7)	8 (28.6)	
High	13 (52)	10 (40)	2 (8)	
Very high	24 (23.3)	32 (31.1)	47 (45.6)	

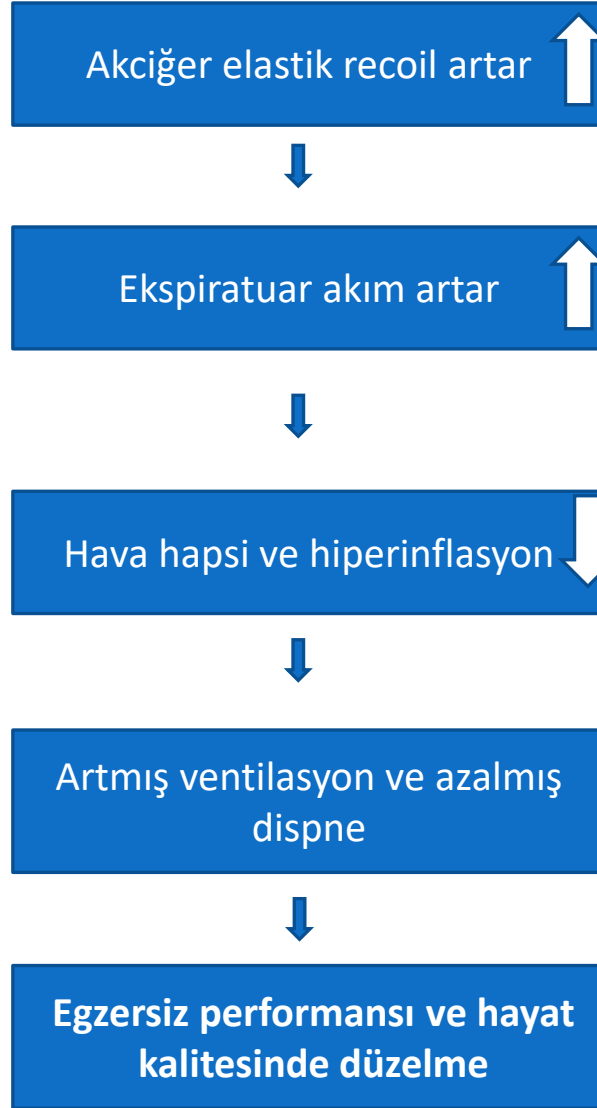


# LVRS AMAÇ?

Terminal Hava Yolu  
Distalinde Anormal  
Genişleme



Fibrozis olmadan  
alveoler destruksiyon



# GOLD REHBERİ 2020

## IYI ADAY

### Fiziksel durum

<75 yaş  
Sigara bırakma >6 ay  
Prednizolon<10 mg/gün  
Yandaş hastalık yok  
İyi nütrisyonel durum  
İyi motivasyon

### Radyoloji

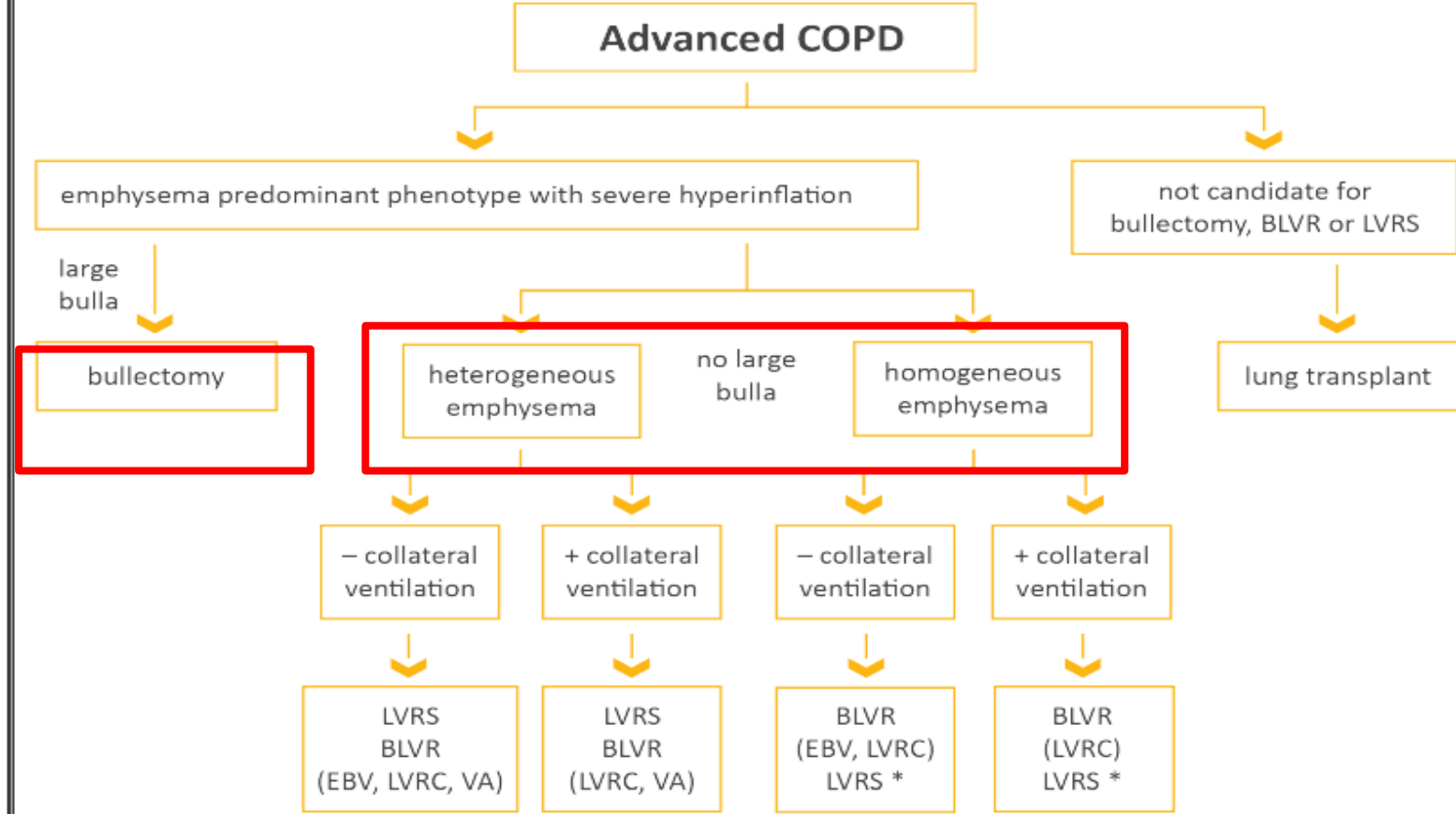
X-ray de hiperinflasyon  
Heterojen amfizem  
Üst lob baskın amfizem

### Fonksiyon durum

FEV1<%40  
TLC>%120  
RV>%150  
DLCO>%20  
6 DYT >140 m

## INTERVENTIONAL BRONCHOSCOPIC AND SURGICAL TREATMENTS FOR COPD

Overview of various therapies used to treat patients with COPD and emphysema worldwide. Note that all therapies are not approved for clinical care in all countries. Additionally, the effects of BLVR on survival or other long term outcomes or comparison to LVRS are unknown.

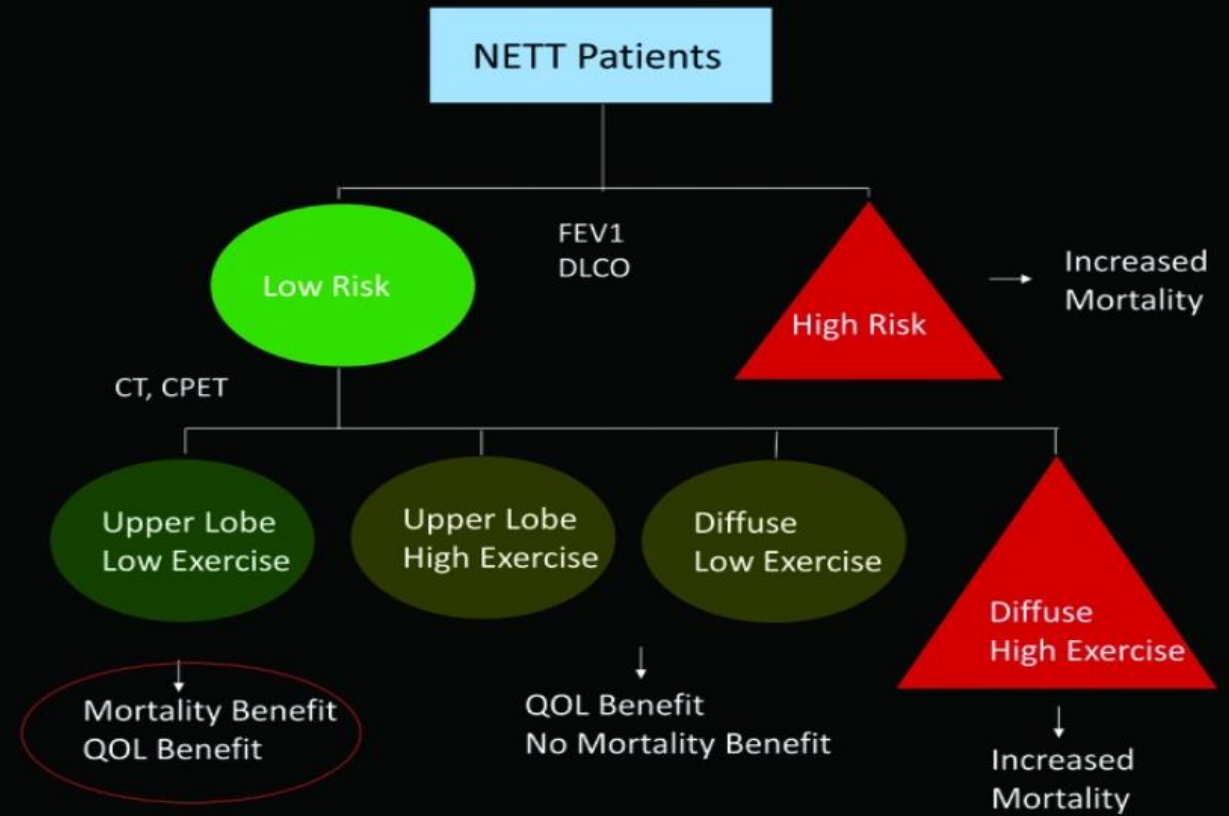
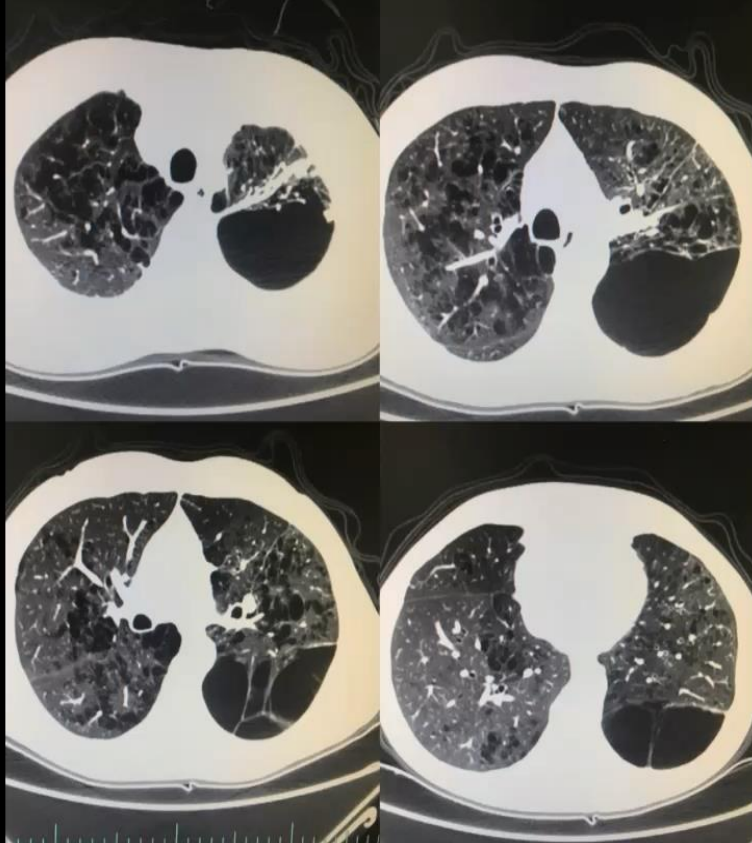


Definition of Abbreviations: BLVR, Bronchoscopic Lung Volume Reduction, EBV, endobronchial Valve, LVRS, Lung volume reduction surgery, LVRC, Lung volume reduction coil, VA, Vapor ablation

\*at some but not all centers

FIGURE 4.6

# Heterojen Amfizem

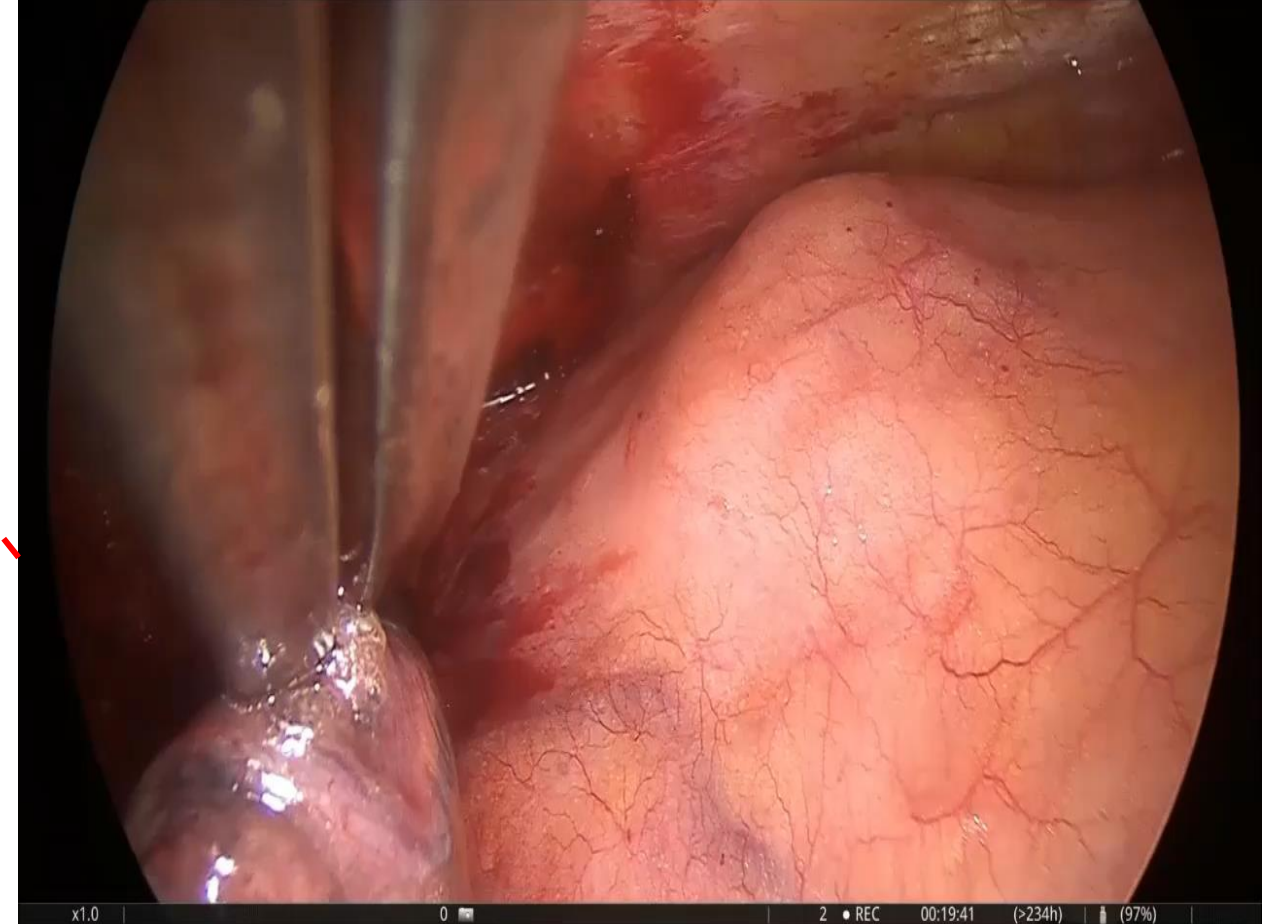
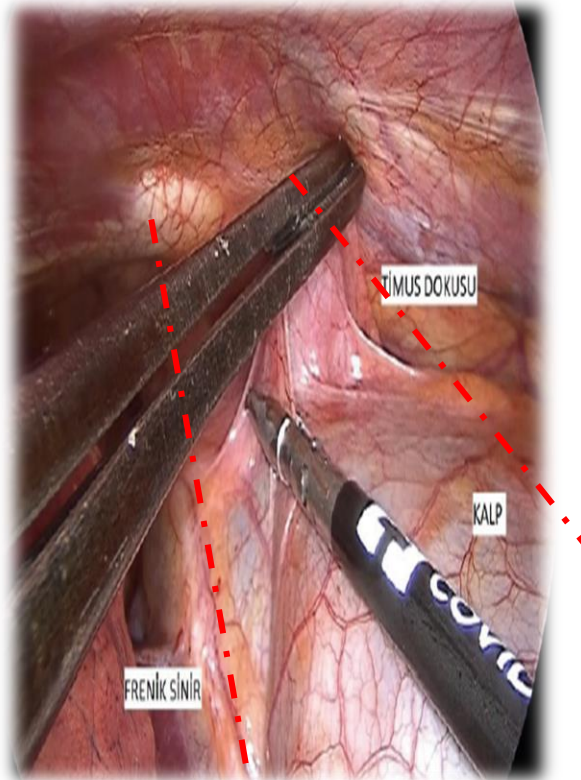




# Anterior Mediasten Cerrahisi

## ➤ Hazırlık

- M. Gravis Hastalığı hakkında bilgi
- Cerrah-Nöroloji-Anestezi iş birliği



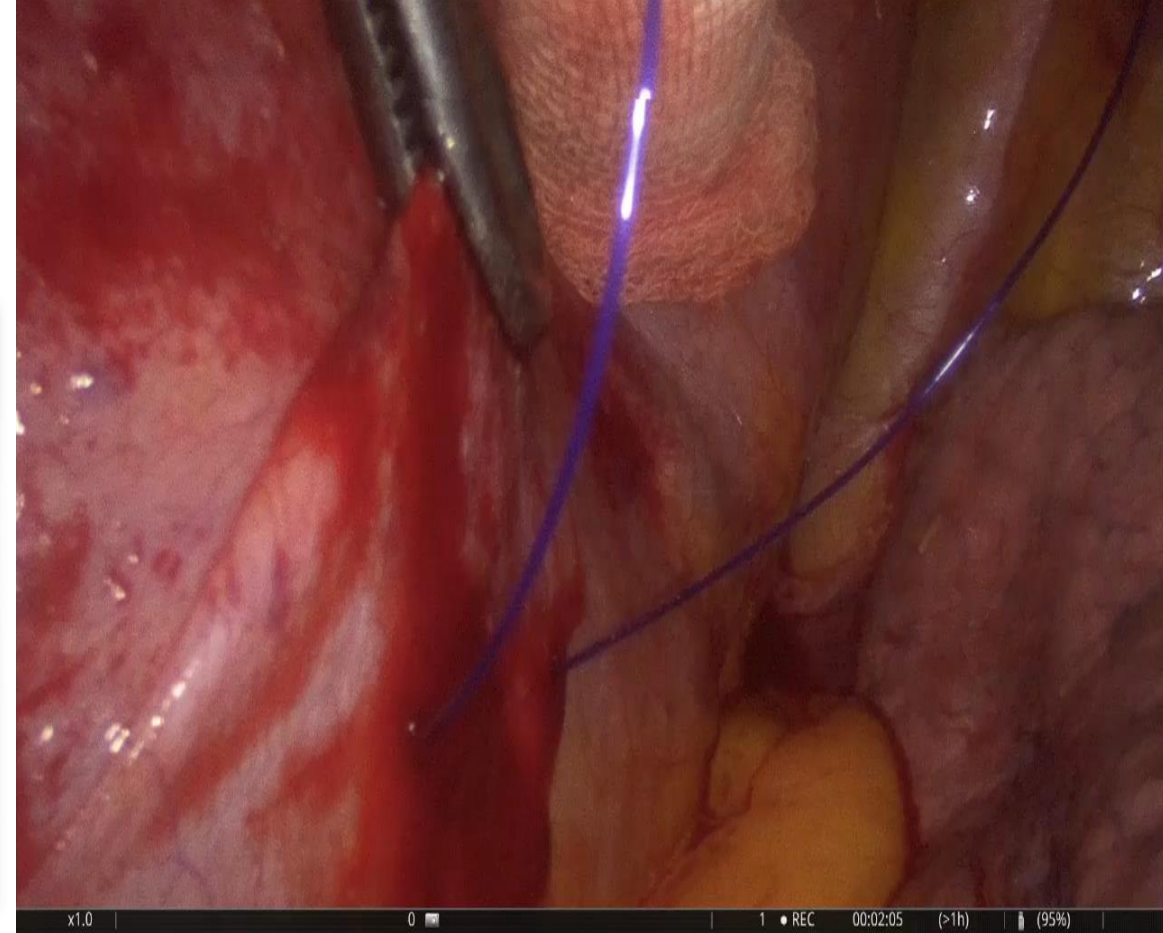
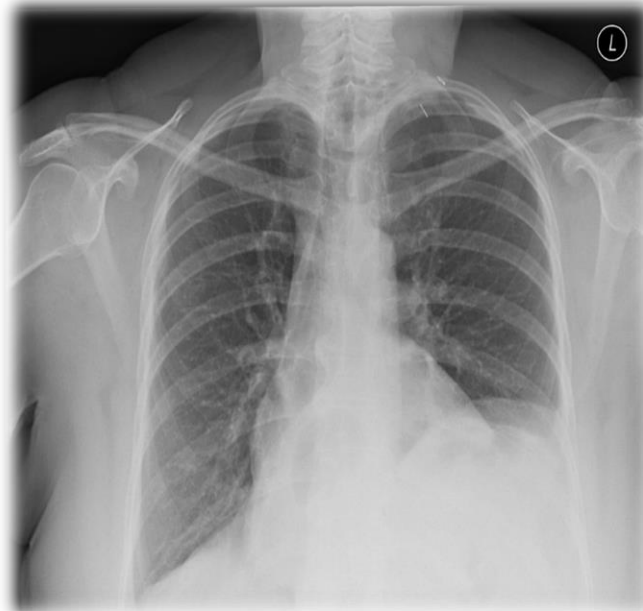
Standard Terms, Definitions, and Policies  
for Minimally Invasive Resection of Thymoma

# Diaphragma Eventrasyonları

Frenik sinir paralizisi durumlarında (travmatik, cerrahiye sekonder) diafragma eventrasyonu gelişmektedir.

Amaç

- Atelektazi, lobar konsolidasyon gibi problemler düzeltmek
- Solunum kapasitesi arttırılmaktadır.



# Yeni Teknolojiler



**Akıllı Robot Teknolojisi RATS**



**Cerrah Destekli Robotik Cerrahi**





# Surgeon-Powered Robotics in Thoracic Surgery; An Era of Surgical Innovation and Its Benefits for the Patient and Beyond

*Jason Trevis<sup>\*†</sup>, Nicholas Chilvers<sup>†</sup>, Kathrin Freystaetter and Joel Dunning*

*Department of Cardiothoracic Surgery, James Cook University Hospital, Middlesbrough, United Kingdom*

VATS + RATS



Cerrah Destekli  
Robotik Cerrahi

---

## Benefits

Lead surgeon at the bedside

Surgeons performs the key steps  
e.g., stapling

Increased tactile feedback

Greater precision

More cost effective

Less training time required

Quicker procedures with increased  
flexibility

---

---

## Challenges

Combination of VATS and robotic  
techniques

Resistance of the chest wall in the port  
due to VATS style pivot point

Camera technology  
development/advancement

Operator experiences the fulcrum effect

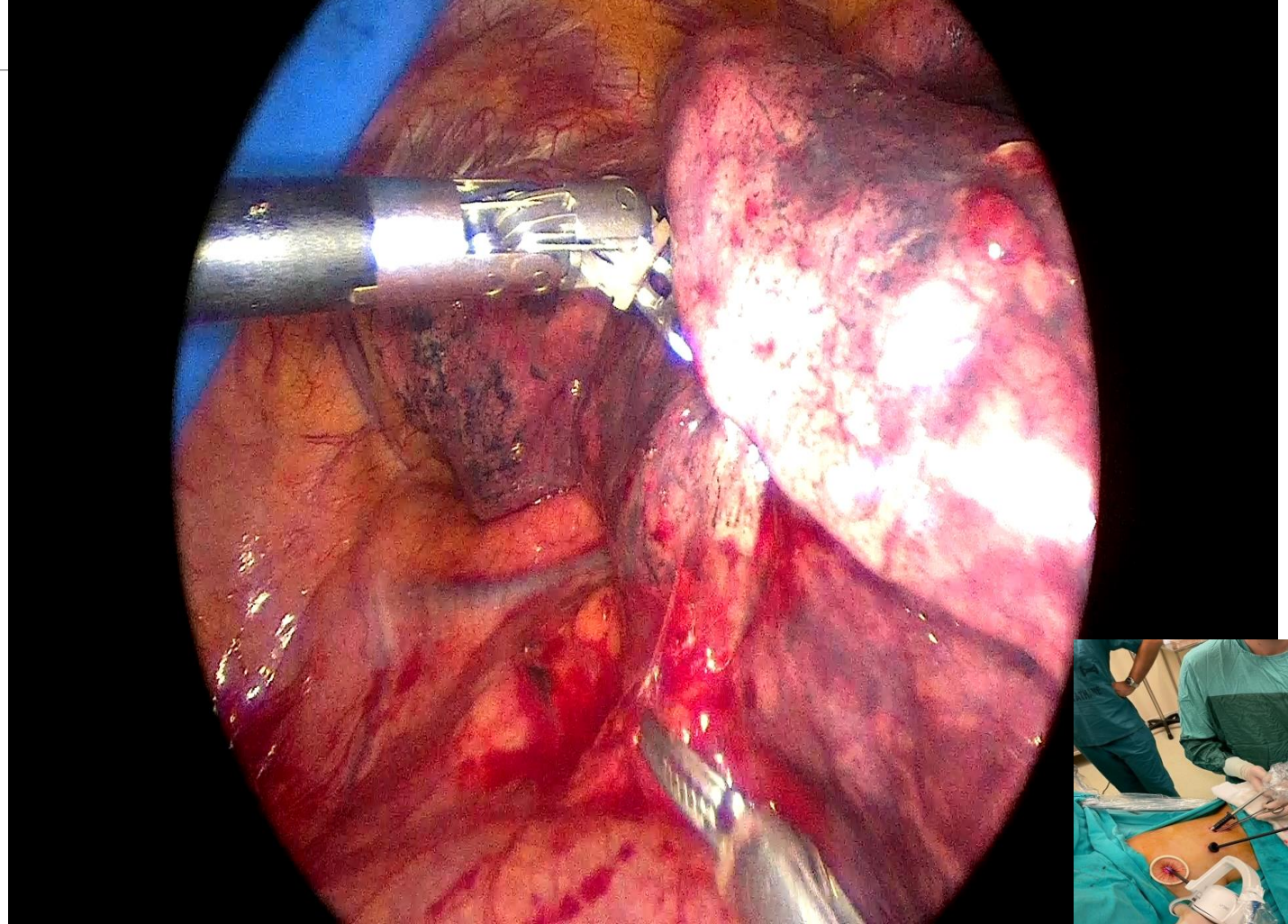
# Cerrah Destekli Robotik Cerrahi

**60 Yaş / Kadın**

**Komorbidite**

- Koroner Arter Hastalığı  
(Stent)
- SVO Öyküsü
- MS nedeniyle Takipli

**TTIABX : KHDAK**



# Uniportal SpRS

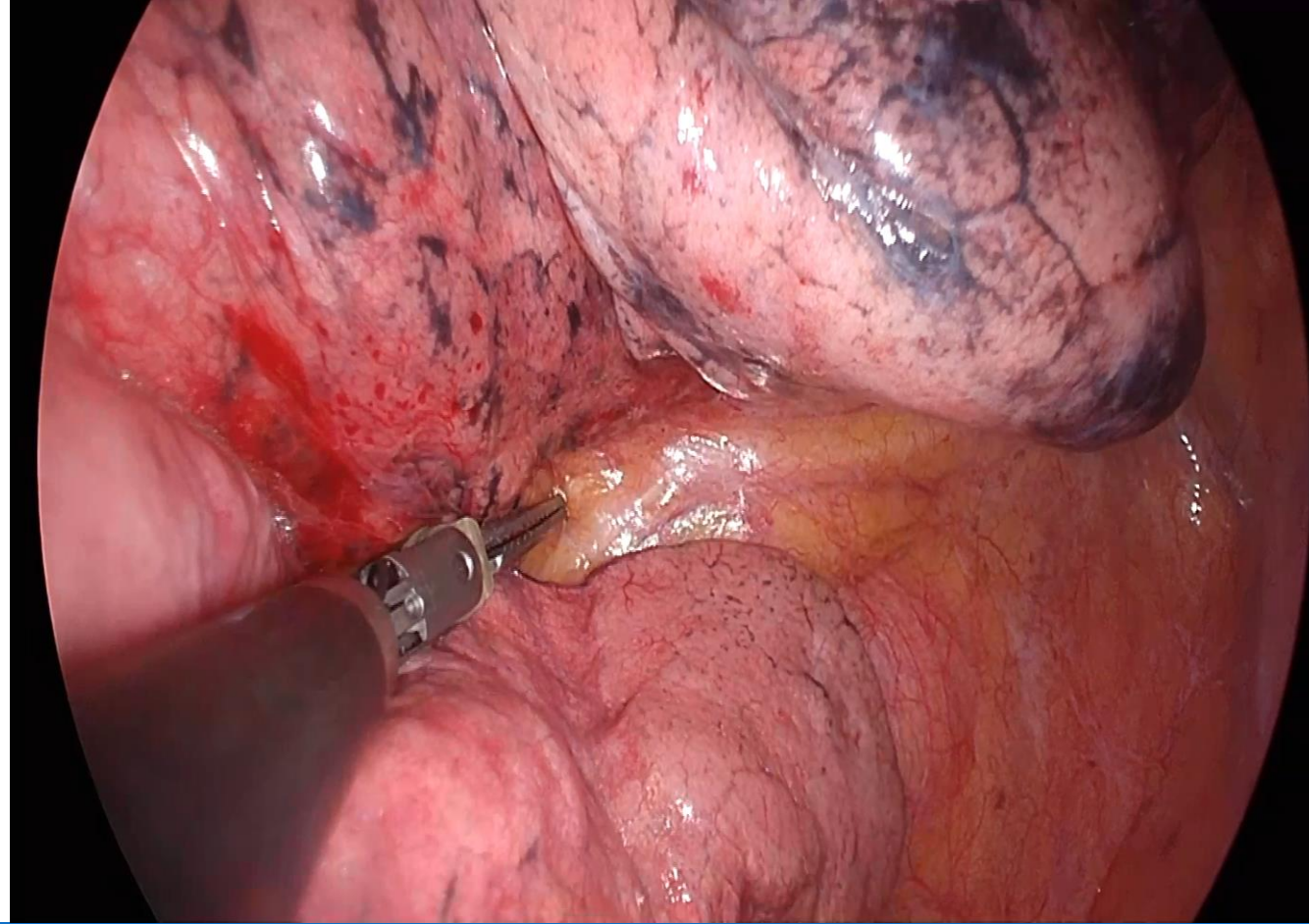
76 Yaş / Erkek

Sağ akciğer üst lobta takibli nodul

Toraks Bt: mm. Boyutlarında kitle

Pet-Bt: Kitlede Suvmax: 15 tutulum mevcut

TTIABx sonucu: KHDAK



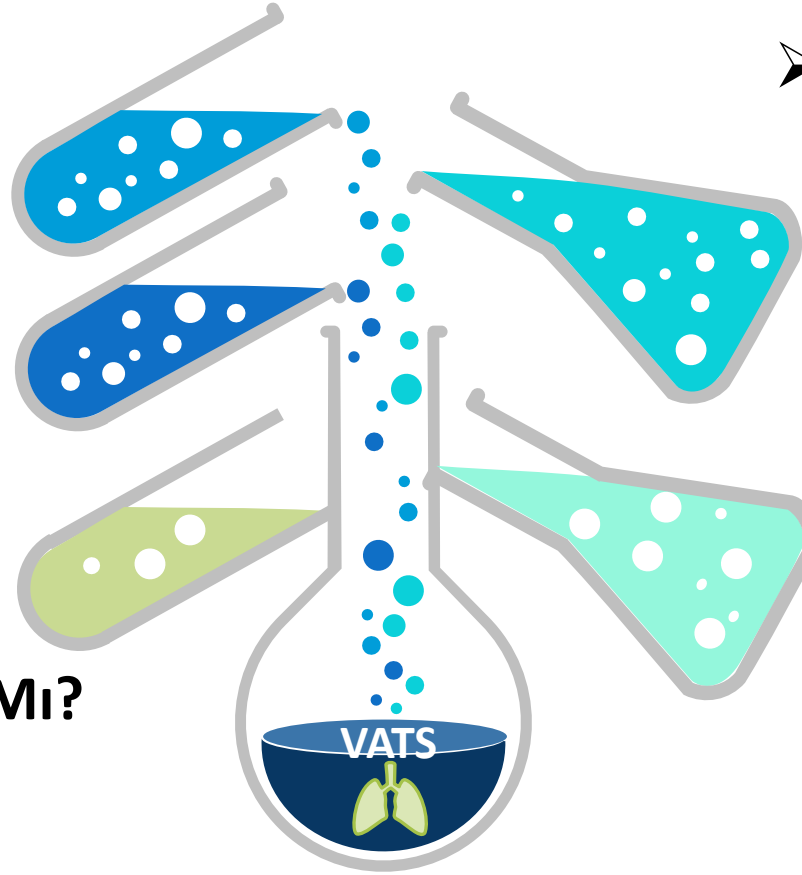
# VATS Eğitimi ?



➤ Kaç Rezeksiyon Gerekli?

➤ Uniportal Başlanmalı Mı?

➤ Asistan Düzeyinde Yapılır Mı?



➤ Mentor Bir Hocaya

İhtiyaç Var Mı?

➤ Kaç Port ile Başlanmalı?

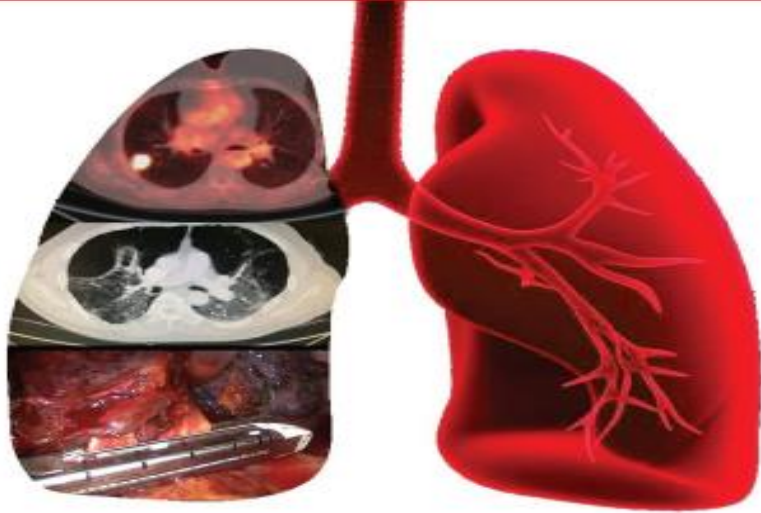
GÜNCEL GÖĞÜS HASTALIKLARI SERİSİ  
UPDATES ON PULMONARY DISEASES

03  
2019

Editör | Editor  
Prof. Dr. Mehmet KARADAĞ

# MINİMAL İNVAZİV GÖĞÜS CERRAHİSİ MINIMALLY INVASIVE THORACIC SURGERY

Konuk Editörler | Guest Editors  
Prof. Dr. Muzaffer METİN, Uzm. Dr. Celal Buğra SEZEN



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## Uniportal video-assisted thoracic surgery lobectomy: a consensus report from the Uniportal VATS Interest Group (UVIG) of the European Society of Thoracic Surgeons (ESTS)

Luca Bertolaccini <sup>a,\*</sup>, Hasan Batirel<sup>b</sup>, Alessandro Brunelli<sup>c</sup>, Diego Gonzalez-Rivas<sup>d</sup>, Mahmoud Ismail<sup>e</sup>, Antonio Martin Ucar<sup>f</sup>, Calvin S.H. Ng <sup>g</sup>, Marco Scarci<sup>h</sup>, Alan D.L. Sihoe <sup>ij</sup>, Paula A. Ugalde <sup>k</sup>, Firas Abu Akar <sup>lm</sup>, Benedetta Bedetti <sup>n</sup>, Sergio Bolufer Nadal<sup>o</sup>, Jury Brandolini<sup>a</sup>, Pierfilippo Crucitti <sup>p</sup>, Attila Enyedi<sup>q</sup>, Hiran C. Fernando <sup>r</sup>, Jozsef Furak<sup>s</sup>, Javier Gallego-Poveda<sup>t</sup>, Carlos Galvez-Munos<sup>u</sup>, Ivo Hanke<sup>v</sup>, Miroslav Janik <sup>w</sup>, Peter Juhos <sup>w</sup>, Lidia Libretti <sup>h</sup>, Paolo Lucciarini<sup>x</sup>, Paolo Macri<sup>y</sup>, Stefano Margaritora<sup>z</sup>, Hamid Reza Mahoozi<sup>aa</sup>, Dania Nachira <sup>z</sup>, Alessandro Pardolesi <sup>bb</sup>, Vadim Pischik<sup>cc</sup>, Dariusz Sagan <sup>dd</sup>, Hermien Schreurs<sup>ee</sup>, Dmitrii Sekhniaidze<sup>ff</sup>, Davide Tosi<sup>gg</sup>, Akif Turna <sup>hh</sup>, Fernando Vannucci <sup>ii</sup>, Marcin Zielinski<sup>jj</sup> and Gaetano Rocco<sup>kk</sup>, on behalf of the Uniportal VATS Interest Group (UVIG) of the European Society of Thoracic Surgeons (ESTS)

<sup>a</sup> Department of Thoracic Surgery, Maggiore Teaching Hospital, Bologna, Italy

<sup>b</sup> Department of Thoracic Surgery, Marmara University Hospital, Istanbul, Turkey

<sup>c</sup> Department of Thoracic Surgery, St. James's University Hospital, Leeds, UK

<sup>d</sup> Minimally Invasive Thoracic Surgery Unit (UCTMI), Department of Thoracic Surgery, Coruña University Hospital, Coruña, Spain

<sup>e</sup> Department of Surgery, Competence Center of Thoracic Surgery, Charité – Universitätsmedizin Berlin, Berlin, Germany

<sup>f</sup> Thoracic Surgery Units, Sheffield Teaching Hospital, Sheffield, UK

**Table 4:** Summary of responses regarding UniVATS lobectomy training

How many UniVATS procedures are mandatory to overwhelm the learning curve?	N (%)
25	5 (16)
50	22 (71)
75	3 (10)
>100	1 (3)
Minimum resident case volume defining a training centre	
30 cases per year	11 (35)
>50 cases per year	20 (65)
UniVATS procedures performed by a surgeon to maintain the UniVATS lobectomy operative skills	
20 cases per year	11 (35)
40 cases per year	18 (58)
≥60 cases per year	2 (6)
Should a surgeon be proctored before commencing a UniVATS lobectomy programme?	
Yes	28 (90)
No	3 (10)

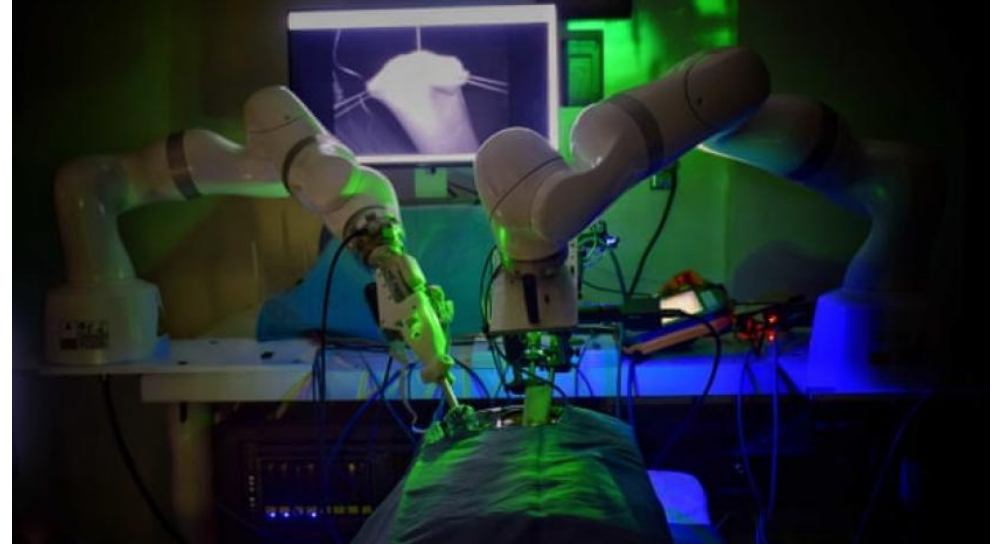
UniVATS: uniportal video-assisted thoracoscopic surgery.

# Yakın Gelecekte Ne Bekliyor ?



Titan Medical: Seeking a niche in single-port robotic surgery



# METAVERS





Cite this article as: Bertolaccini L, Casiraghi M, Spaggiari L. Immunotherapy in the neoadjuvant settings: a new challenge for the thoracic surgeon? *Interact CardioVasc Thorac Surg* 2020;30:1–3.

## Immunotherapy in the neoadjuvant settings: a new challenge for the thoracic surgeon?

Luca Bertolaccini <sup>a,\*</sup>, Monica Casiraghi <sup>a</sup> and Lorenzo Spaggiari<sup>a,b</sup>

<sup>a</sup> Division of Thoracic Surgery, IEO, European Institute of Oncology IRCCS, Milan, Italy

<sup>b</sup> Department of Oncology and Hemato-Oncology, University of Milan, Milan, Italy

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**Keywords:** Lung cancer • Immunotherapy • Target therapies • Early stage • Non-small-cell lung cancer • Neoadjuvant treatments

### ORIGINAL ARTICLE

## Neoadjuvant Nivolumab plus Chemotherapy in Resectable Lung Cancer

P.M. Forde, J. Spicer, S. Lu, M. Provencio, T. Mitsudomi, M.M. Awad, E. Felip, S.R. Broderick, J.R. Brahmer, S.J. Swanson, K. Kerr, C. Wang, T.-E. Ciuleanu, G.B. Saylor, F. Tanaka, H. Ito, K.-N. Chen, M. Liberman, E.E. Vokes, J.M. Taube, C. Dorange, J. Cai, J. Fiore, A. Jarkowski, D. Balli, M. Sausen, D. Pandya, C.Y. Calvet, and N. Girard, for the CheckMate 816 Investigators\*

### ABSTRACT

#### BACKGROUND

Neoadjuvant or adjuvant chemotherapy confers a modest benefit over surgery alone for resectable non–small-cell lung cancer (NSCLC). In early-phase trials, nivolumab-based neoadjuvant regimens have shown promising clinical activity; however, data from phase 3 trials are needed to confirm these findings.

#### METHODS

In this open-label, phase 3 trial, we randomly assigned patients with stage IB to IIIA resectable NSCLC to receive nivolumab plus platinum-based chemotherapy or platinum-based chemotherapy alone, followed by resection. The primary end points were event-free survival and pathological complete response (0% viable tumor in resected lung and lymph nodes), both evaluated by blinded independent review. Overall survival was a key secondary end point. Safety was assessed in all treated patients.

#### RESULTS

The median event-free survival was 31.6 months (95% confidence interval [CI], 30.2 to not reached) with nivolumab plus chemotherapy and 20.8 months (95% CI, 14.0 to 26.7) with chemotherapy alone (hazard ratio for disease progression, disease recurrence, or death, 0.63; 97.38% CI, 0.43 to 0.91;  $P=0.005$ ). The percentage of patients with a pathological complete response was 24.0% (95% CI, 18.0 to 31.0) and 2.2% (95% CI, 0.6 to 5.6), respectively (odds ratio, 13.94; 99% CI, 3.49 to 55.75;  $P<0.001$ ). Results for event-free survival and pathological complete response across most subgroups favored nivolumab plus chemotherapy over chemotherapy alone. At the first prespecified interim analysis, the hazard ratio for death was 0.57 (99.67% CI, 0.30 to 1.07) and did not meet the criterion for significance. Of the patients who underwent randomization, 83.2% of those in the nivolumab-plus-chemotherapy group and 75.4% of those in the chemotherapy-alone group underwent surgery. Grade 3 or 4 treatment-related adverse events occurred in 33.5% of the patients in the nivolumab-plus-chemotherapy group and in 36.9% of those in the chemotherapy-alone group.



Dikkatiniz İin  
Teşekkürler

