

12º SIMPÓSIO
INTERNACIONAL DE

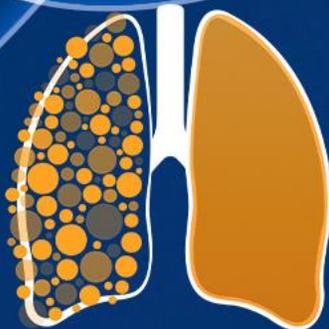
CÂNCER DE PULMÃO

2ª JORNADA ONCONNECTION MULTICARE

2024

GERENCIAMENTO E PRODUÇÃO

RV+
EVENTOS MÉDICOS



12^º SIMPÓSIO
INTERNACIONAL DE
**CÂNCER DE
PULMÃO**
2ª JORNADA ONCONNECTION MULTICARE
2024

Cirurgia no câncer de pulmão inicial

Qual técnica e quais os critérios de qualidade?

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Professor Colaborador de Cirurgia Torácica da FMUSP

Cirurgião Torácico do ICESP HC-FMUSP

GERENCIAMENTO E PRODUÇÃO



Aula Médica/Advisory board

Medtronic

Ethicon

Astra Zeneca

MSD

Roche

BMS

Financiamento para pesquisa

Lexington Medical

DMC

Qual a técnica?

Extensão da ressecção

Randomized Trial of Lobectomy Versus Limited Resection for T1 N0 Non-Small Cell Lung Cancer

Lung Cancer Study Group (Prepared by Robert J. Ginsberg, MD, and Lawrence V. Rubinstein, PhD)

- Clinical trial: 247 patients:
- T1 (3 cm) N0 (estadiamento intra-operatório)
- 2 braços:
 - Lobectomia
 - Ressecção sublobar
- Desfechos:
 - Recorrência local
 - Sobrevida livre de doença

Randomized Trial of Lobectomy Versus Limited Resection for T1 N0 Non-Small Cell Lung Cancer

Lung Cancer Study Group (Prepared by Robert J. Ginsberg, MD, and Lawrence V. Rubinstein, PhD)

Event	Limited Resection		Lobectomy		p Value
	No. of Patients	Rate (per person/y)	No. of Patients	Rate (per person/y)	
Recurrence (excluding second primary)	38	0.101	23	0.057	0.02 ^b
Recurrence (including second primary)	42	0.112	32	0.079	0.079 ^b
Locoregional recurrence ^d	21	0.060	8	0.020	0.008 ^c
Nonlocal recurrence ^d	17	0.048	15	0.037	0.672 (NS) ^c
Death (with cancer)	30	0.073	21	0.049	0.094 ^b
Death (all causes)	48	0.117	38	0.089	0.088 ^b

Randomized Trial of Lobectomy Versus Limited Resection for T1 N0 Non-Small Cell Lung Cancer

Lung Cancer Study Group (Prepared by Robert J. Ginsberg, MD, and Lawrence V. Rubinstein, PhD)

Conclusão

Ressecção sublobar

Maior taxa de recorrência local

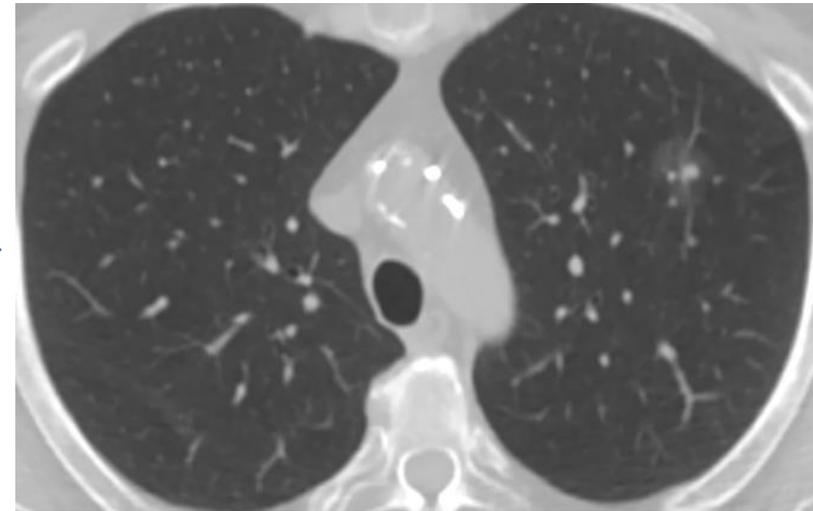
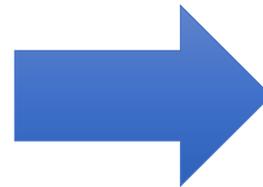
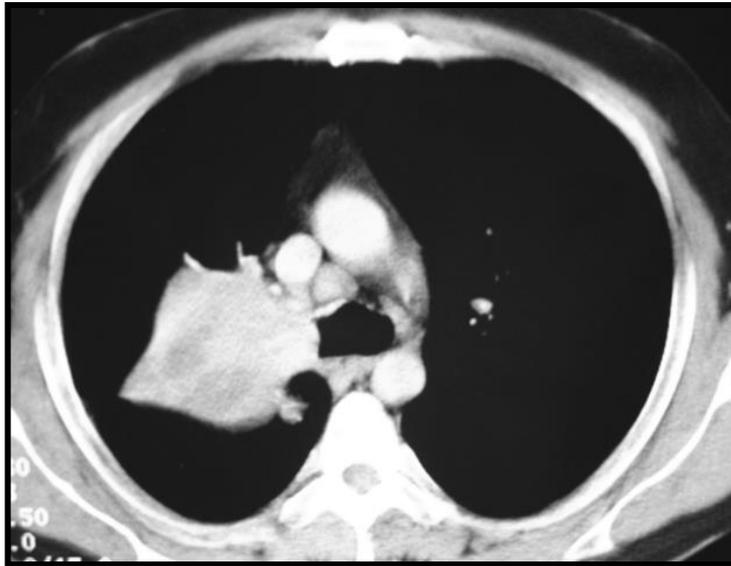


Lobectomia é o padrão-ouro

Randomized Trial of Lobectomy Versus Limited Resection for T1 N0 Non-Small Cell Lung Cancer

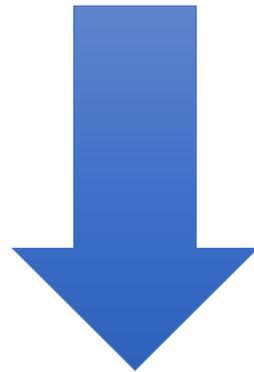
Lung Cancer Study Group (Prepared by Robert J. Ginsberg, MD, and Lawrence V. Rubinstein, PhD)

- Recrutamento: fim dos 1980s, início 1990s
 - TC
 - Métodos de estadiamento



Novos Tempos

- Nódulos menores
- Pacientes idosos
- Opacidades em vidro-fosco



Será a lobectomia realmente necessária?

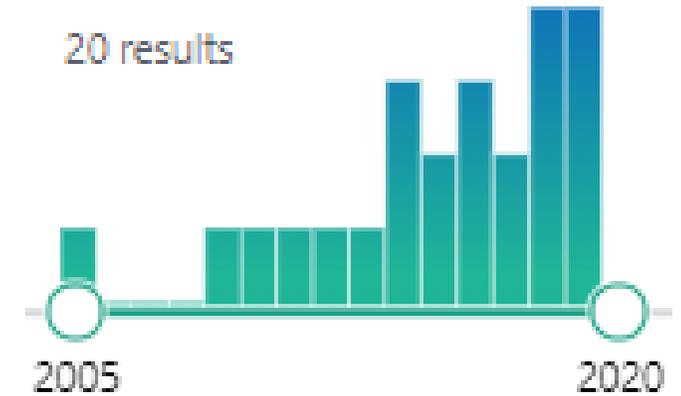
LCSG (1995)



2020



✓ Meta-Analysis



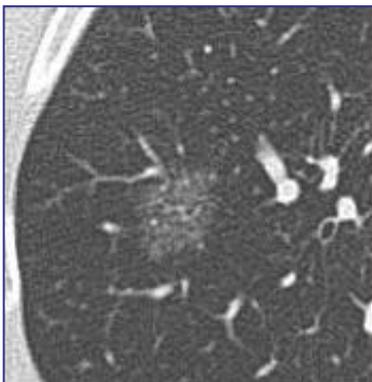
Artigos comparando Lobar vs. Sublobar

✓ Randomized Controlled Trial

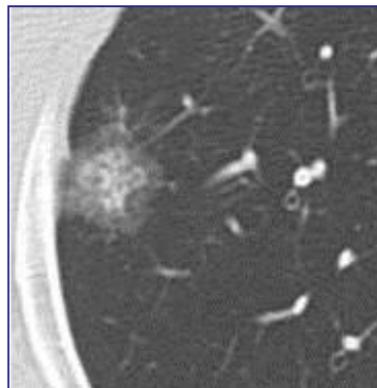
No results were found.

Ensaaios Clínicos

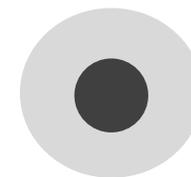
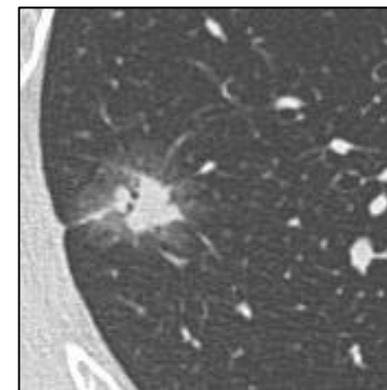
Densidade de Nódulos



“Vidro
despolido”
puro

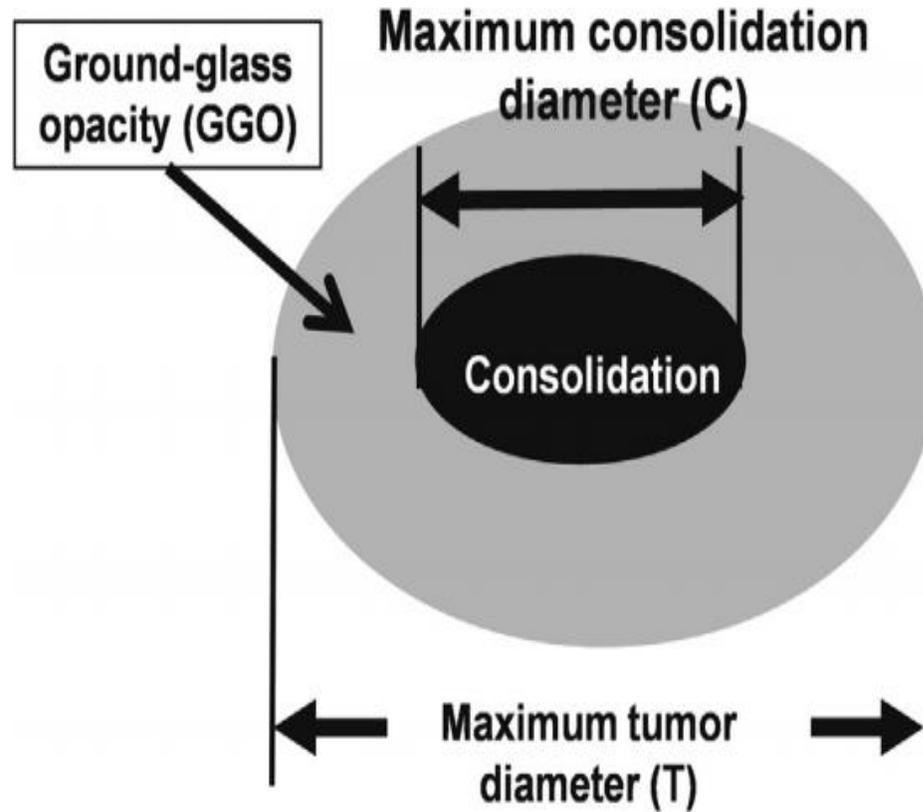


“Vidro
despolido”
heterogeneo

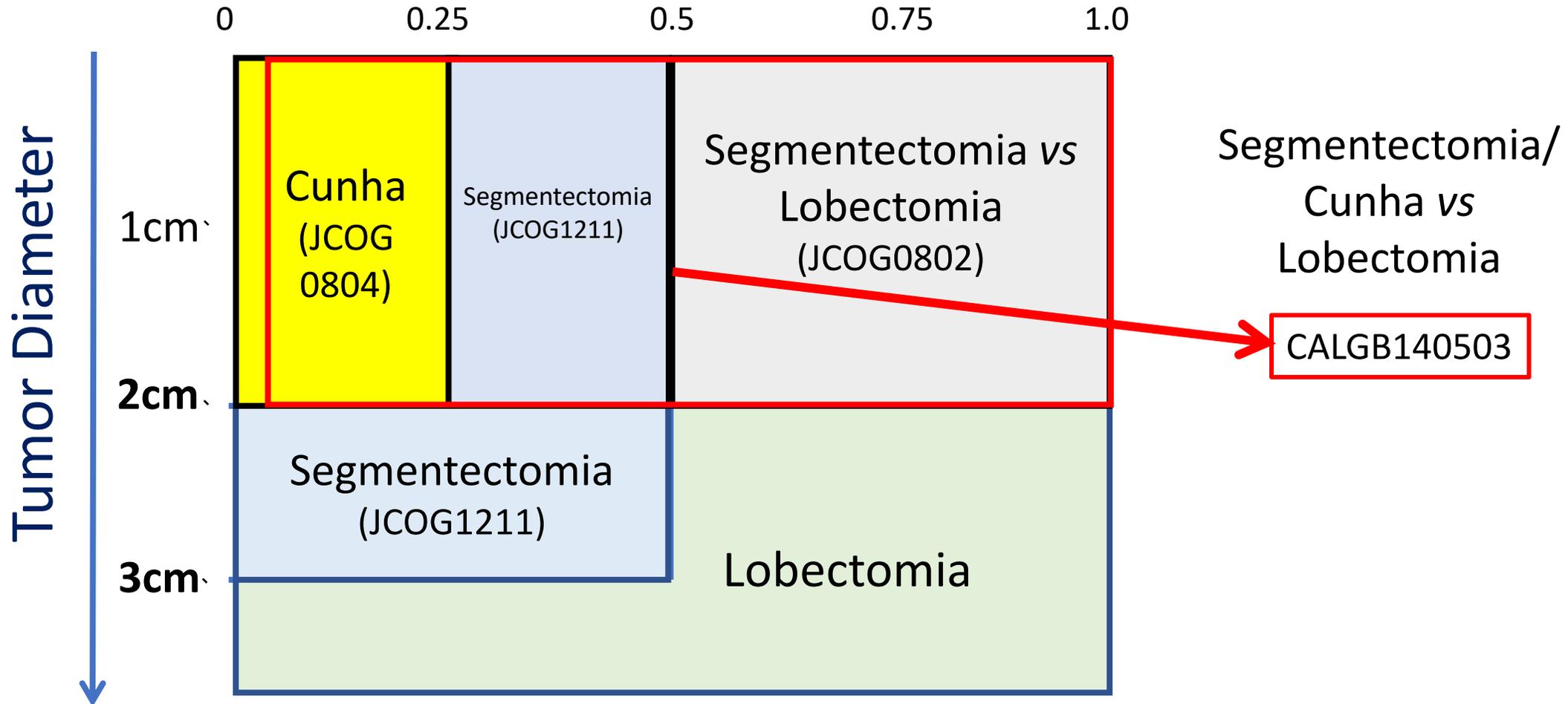


Semi-sólido

Razão Consolidação/Tumor



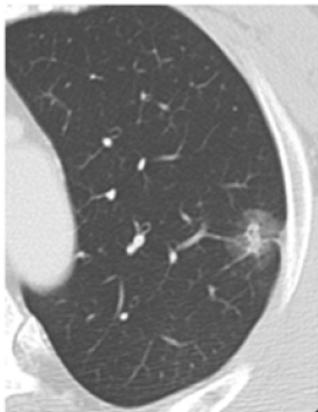
Solid/GGN Ratio



A Single-arm Study of Sublobar Resection for Ground Glass Opacity Dominant Peripheral Lung Cancer

Kenji Suzuki, Shun-ichi Watanabe, Masashi Wakabayashi, Hisashi Saji, Keiju Aokage, Yasumitsu Moriya, Ichiro Yoshino, Masahiro Tsuboi, Shinichiro Nakamura, Kenichi Nakamura, Tetsuya Mitsudomi, Hisao Asamura, on behalf of the West Japan Oncology Group (WJOG) and Japan Clinical Oncology Group (JCOG)

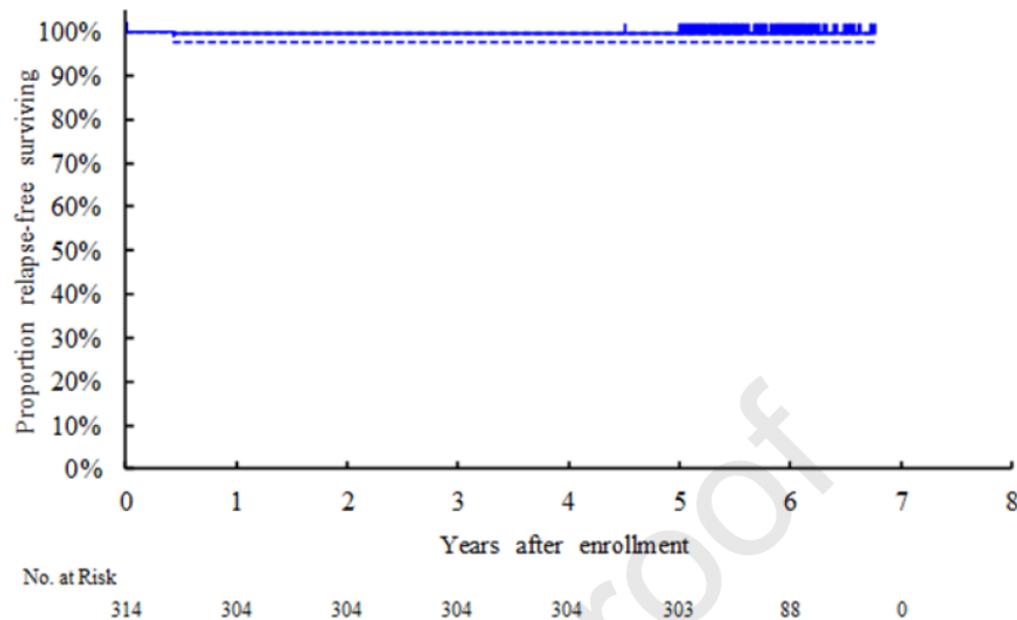
JCOG0804/WJOG4507L Study showed excellent survival after sublobar resection for peripherally located Ground Glass dominant lung tumor



N=314
0% < CTR < 25%



Sublobar resection



Sublobar resection is enough for Ground Glass dominant peripherally located lung cancer

CTR=consolidation/tumor ratio

Conversões Anatômicas

52 - Margem insuficiente/positiva

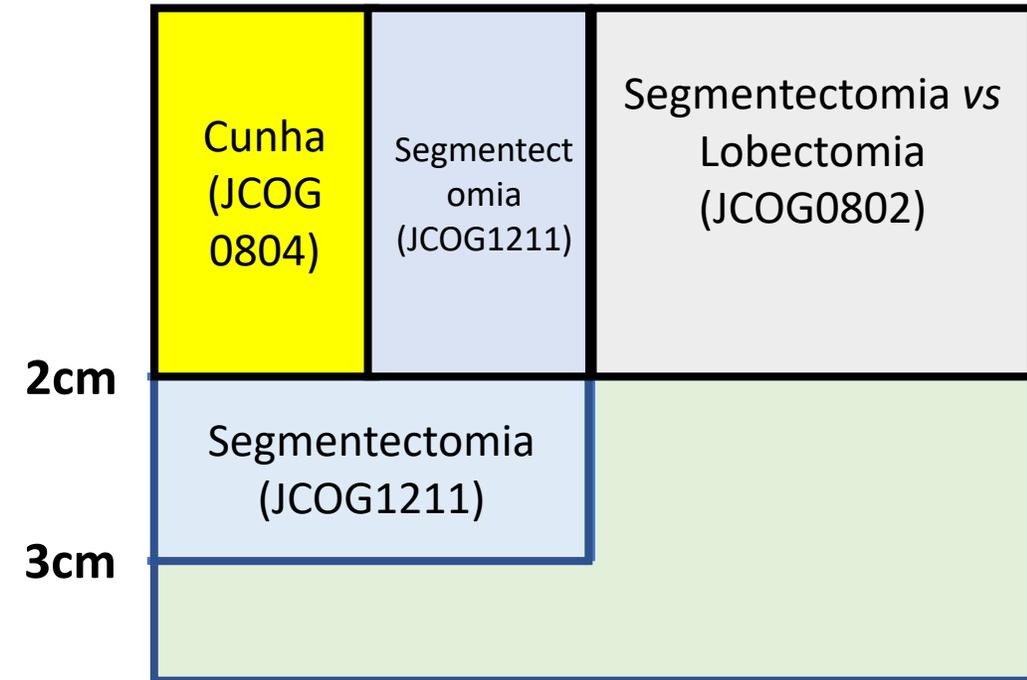
11 - Invasividade à patologia

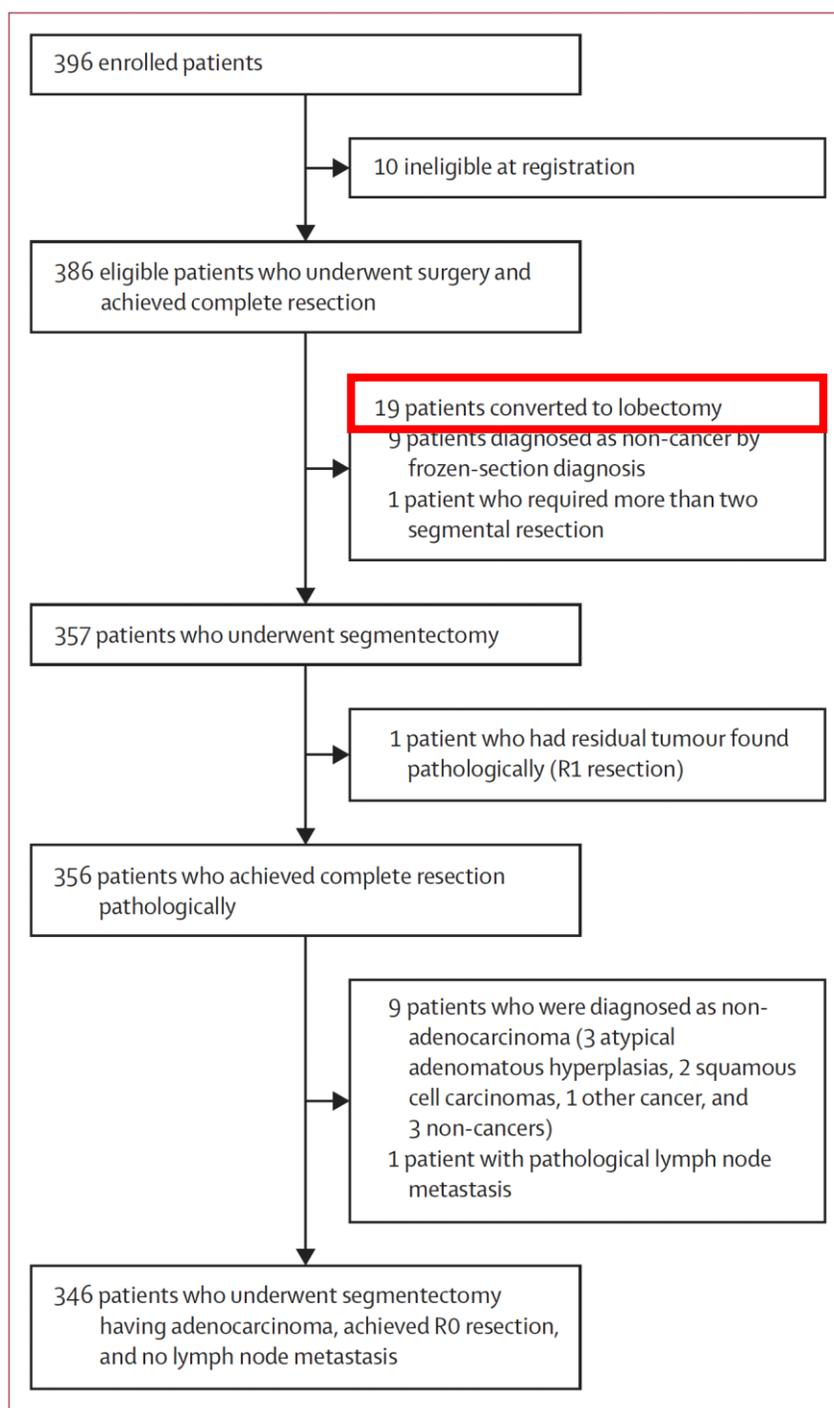
10 - Não identificação do nódulo

Segmentectomy for ground-glass-dominant lung cancer with a tumour diameter of 3 cm or less including ground-glass opacity (JCOG1211): a multicentre, single-arm, confirmatory, phase 3 trial

Keiju Aokage, Kenji Suzuki, Hisashi Saji, Masashi Wakabayashi, Tomoko Kataoka, Yuta Sekino, Haruhiko Fukuda, Makoto Endo, Aritoshi Hattori, Takahiro Mimae, Tomohiro Miyoshi, Mitsuhiro Isaka, Hiroshige Yoshioka, Ryu Nakajima, Kazuo Nakagawa, Jiro Okami, Hiroyuki Ito, Hiroaki Kuroda, Masahiro Tsuboi, Norihito Okumura, Makoto Takahama, Yasuhisa Ohde, Tadashi Aoki, Yasuhiro Tsutani, Morihito Okada, Shun-ichi Watanabe, on behalf of the Japan Clinical Oncology Group

- 42 instituições japonesas
- N=396
- Desfecho primário : sobrevida livre de recidiva
 - **2 a 3 cm e CTR $\leq 0,5$**
 - **≤ 2 cm e CTR 0,25 a 0,5**
 - **≤ 2 cm e CTR $\leq 0,25$ Não no terço pulmonar periférico**





Operation mode

Wedge resection	2 (1%)
Segmentectomy	374 (95%)
Lobectomy	19 (5%)
Pneumonectomy	0

Pathological N stage‡

N0	380 (96%)	352 (99%)
N1	2 (<1%)	1 (<1%)
N2	0	0
N3	0	0

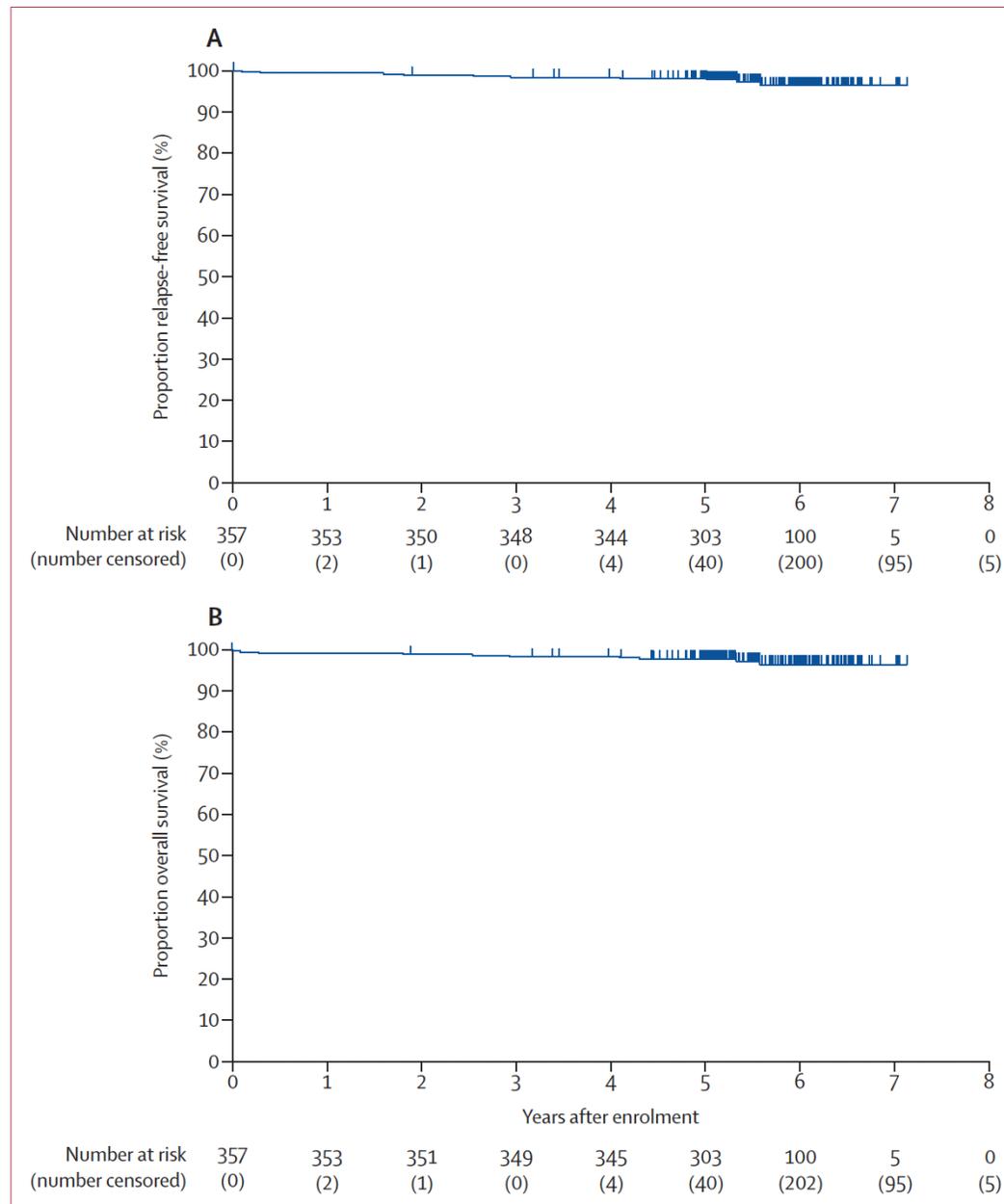
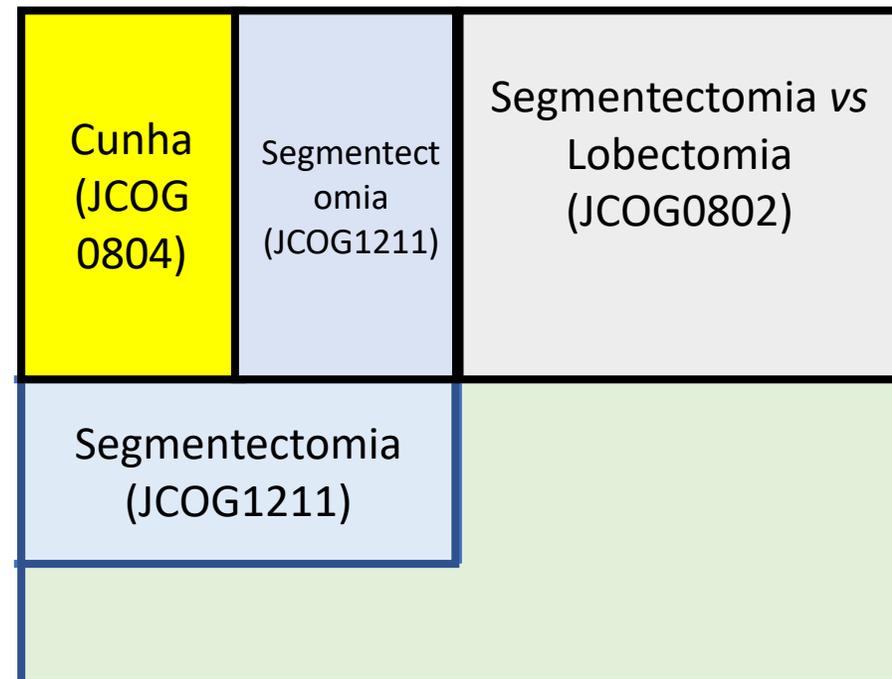


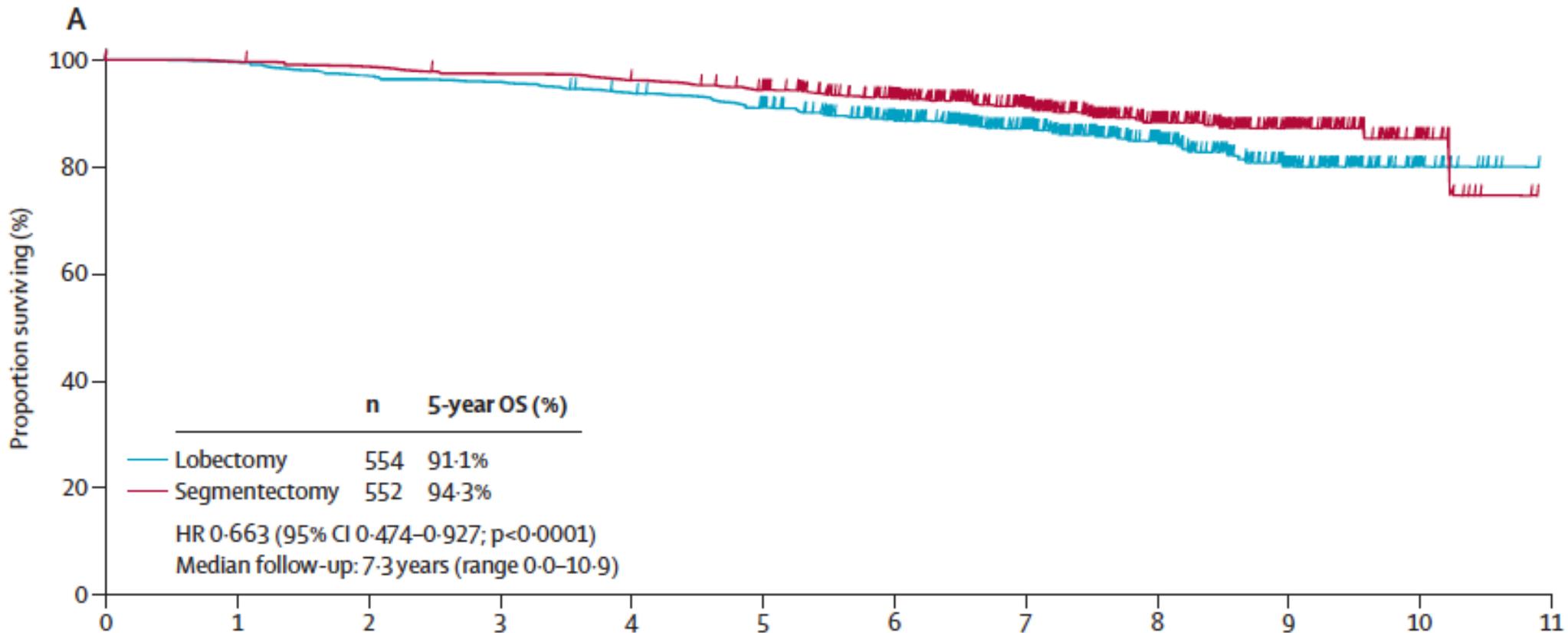
Figure 2: Kaplan-Meier estimates for all 357 patients who underwent segmentectomy (A) Relapse-free survival. (B) Overall survival.

Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WJOG4607L): a multicentre, open-label, phase 3, randomised, controlled, non-inferiority trial

*Hisashi Saji, Morihito Okada, Masahiro Tsuboi, Ryu Nakajima, Kenji Suzuki, Keiju Aokage, Tadashi Aoki, Jiro Okami, Ichiro Yoshino, Hiroyuki Ito, Norihito Okumura, Masafumi Yamaguchi, Norihiko Ikeda, Masashi Wakabayashi, Kenichi Nakamura, Haruhiko Fukuda, Shinichiro Nakamura, Tetsuya Mitsudomi, Shun-Ichi Watanabe, Hisao Asamura, on behalf of the West Japan Oncology Group and Japan Clinical Oncology Group**

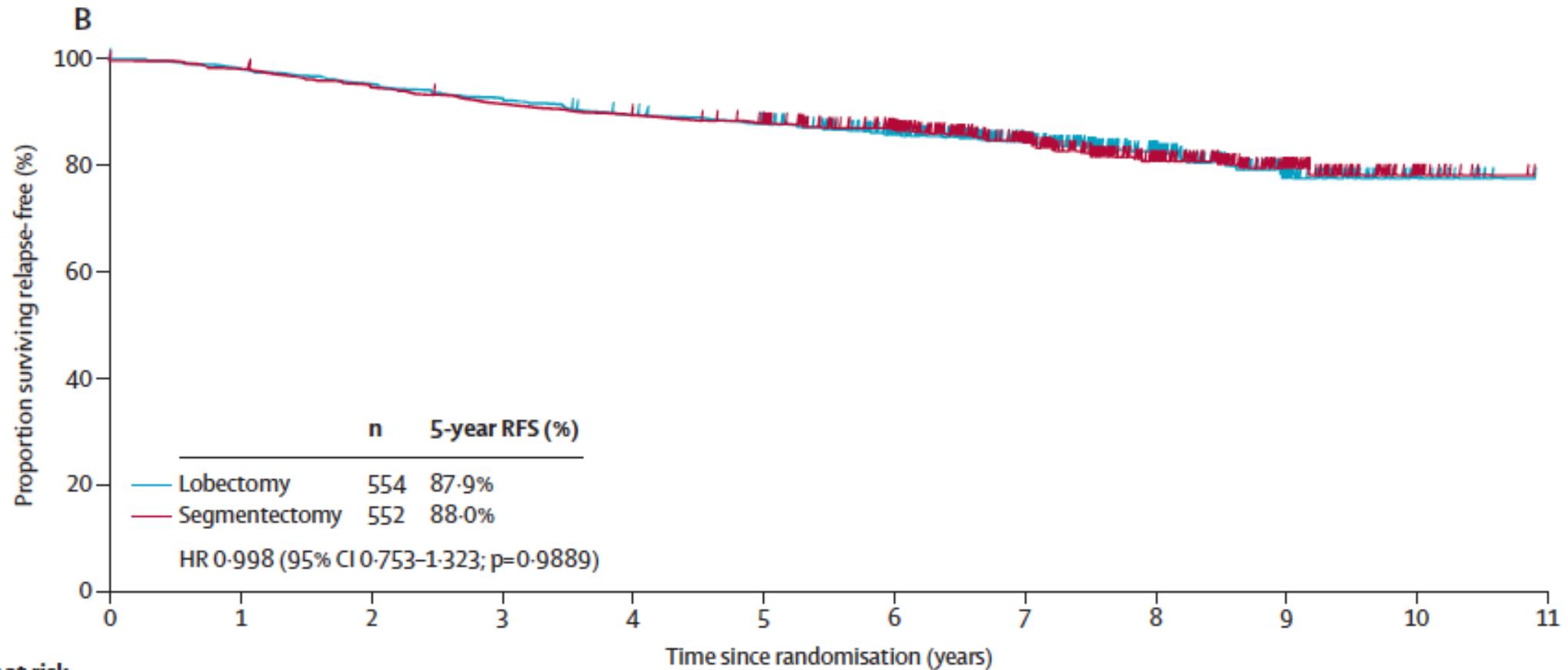
- 70 instituições japonesas
- N=1106
- Desfecho primário : sobrevida global (não-inferioridade)
 - ≤ 2 cm
 - Taxa componente sólido/total **CTR > 0,5**
 - **Terço periférico** do pulmão





**Number at risk
 (number censored)**

Lobectomy	554 (0)	550 (1)	537 (0)	530 (0)	525 (3)	495 (6)	426 (57)	322 (97)	190 (125)	90 (92)	23 (67)	0 (23)
Segmentectomy	552 (0)	549 (1)	543 (1)	534 (1)	528 (0)	512 (6)	457 (47)	332 (118)	202 (122)	104 (96)	25 (78)	0 (24)



Number at risk (number censored)	0	1	2	3	4	5	6	7	8	9	10	11
Lobectomy	554 (0)	542 (1)	527 (0)	512 (0)	492 (3)	477 (6)	409 (57)	310 (93)	184 (121)	85 (91)	22 (63)	0 (22)
Segmentectomy	552 (0)	541 (1)	521 (1)	503 (1)	491 (0)	477 (6)	426 (45)	304 (112)	181 (112)	89 (90)	21 (67)	0 (21)

Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WJOG4607L): a multicentre, open-label, phase 3, randomised, controlled, non-inferiority trial

*Hisashi Saji, Morihito Okada, Masahiro Tsuboi, Ryu Nakajima, Kenji Suzuki, Keiju Aokage, Tadashi Aoki, Jiro Okami, Ichiro Yoshino, Hiroyuki Ito, Norihito Okumura, Masafumi Yamaguchi, Norihiko Ikeda, Masashi Wakabayashi, Kenichi Nakamura, Haruhiko Fukuda, Shinichiro Nakamura, Tetsuya Mitsudomi, Shun-Ichi Watanabe, Hisao Asamura, on behalf of the West Japan Oncology Group and Japan Clinical Oncology Group**

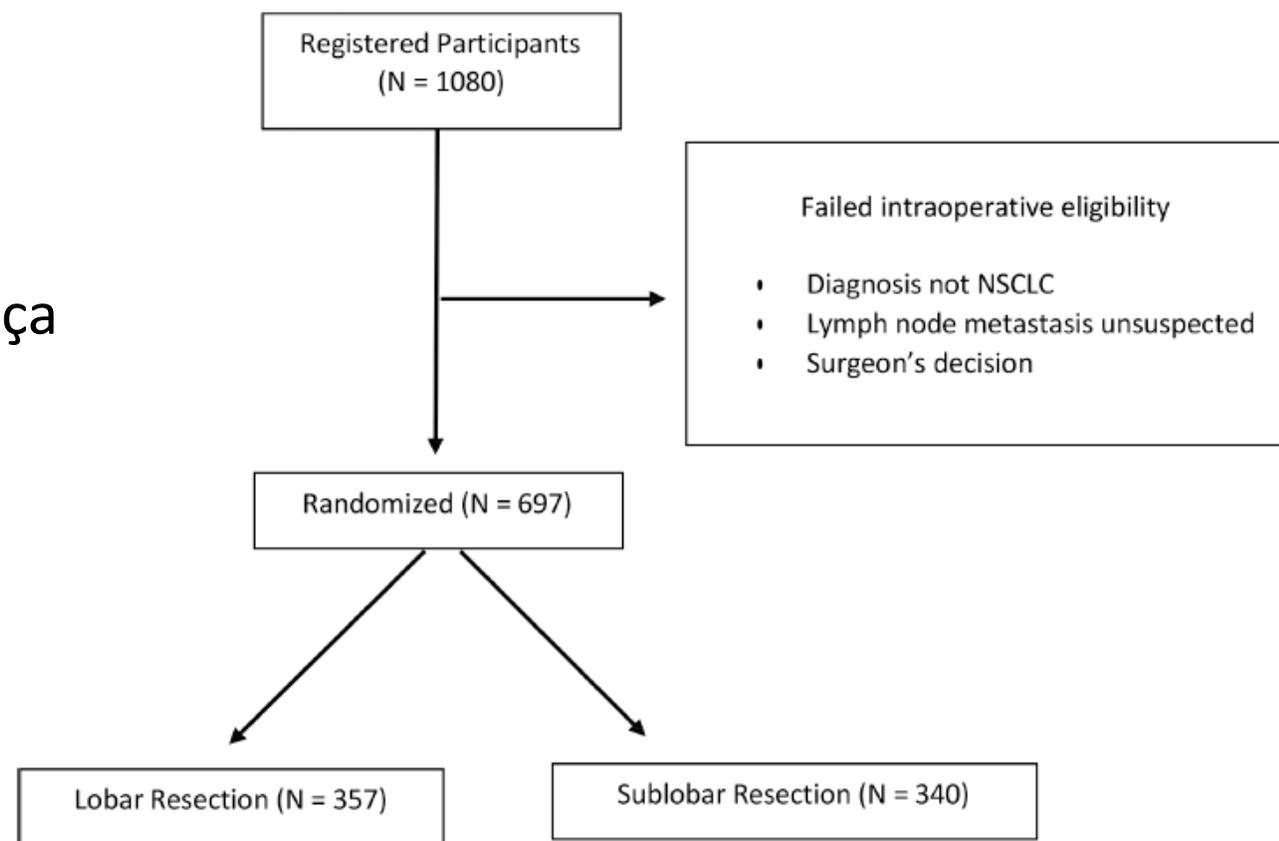
Resumo – O Estudo dos **3%**

- **3%** > Sobrevida global no Segmentectomia
- **3%** > Recorrência loco-regional no Segmentectomia
- **3%** > VEF1 após 1 ano no Segmentectomia
- **3%** > Escape aéreo grau 2 no Segmentectomia
- **3%** > Óbito por um segundo câncer no Lobectomia

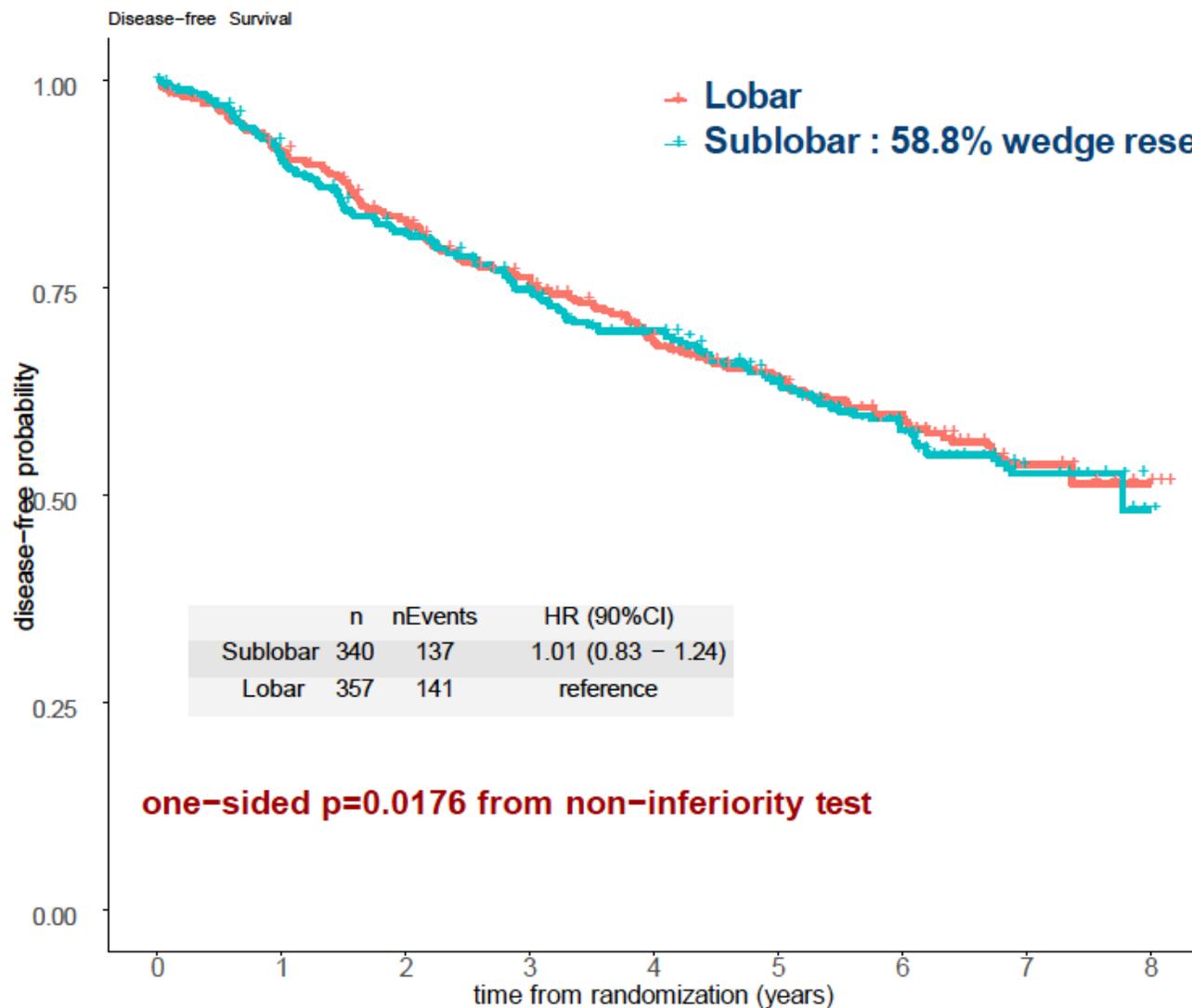
Lobar or Sublobar Resection for Peripheral Stage IA Non-Small-Cell Lung Cancer

Nasser Altorki, M.D., Xiaofei Wang, Ph.D, David Kozono, M.D., Ph.D., Colleen Watt, B.S.,
 Rodney Landrenau, M.D., Dennis Wigle, M.D., Ph.D., Jeffrey Port, M.D., David R. Jones, M.D.,
 Massimo Conti, M.D., Ahmad S. Ashrafi, M.D., Moïshe Liberman, M.D., Ph.D., Kazuhiro Yasufuku, M.D., Ph.D.,
 Stephen Yang, M.D., John D. Mitchell, M.D., Harvey Pass, M.D., Robert Keenan, M.D., Thomas Bauer, M.D.,
 Daniel Miller, M.D., Leslie J. Kohman, M.D., Thomas E. Stinchcombe, M.D., and Everett Vokes, M.D.

- EUA, Canadá e Austrália
- Segmentectomia ou **Cunha**
- N= 697
- Desfecho primário : sobrevida livre de doença
 - ≤ 2 cm (vidros foscos puros excluídos)
 - **Terço periférico** do pulmão
 - Confirmação **pN0 intra-operatória**
 - 4, 7 e 10 direita
 - 5 ou 6, 7 e 10 esquerda



Disease-free Survival



Median follow-up: 7 years

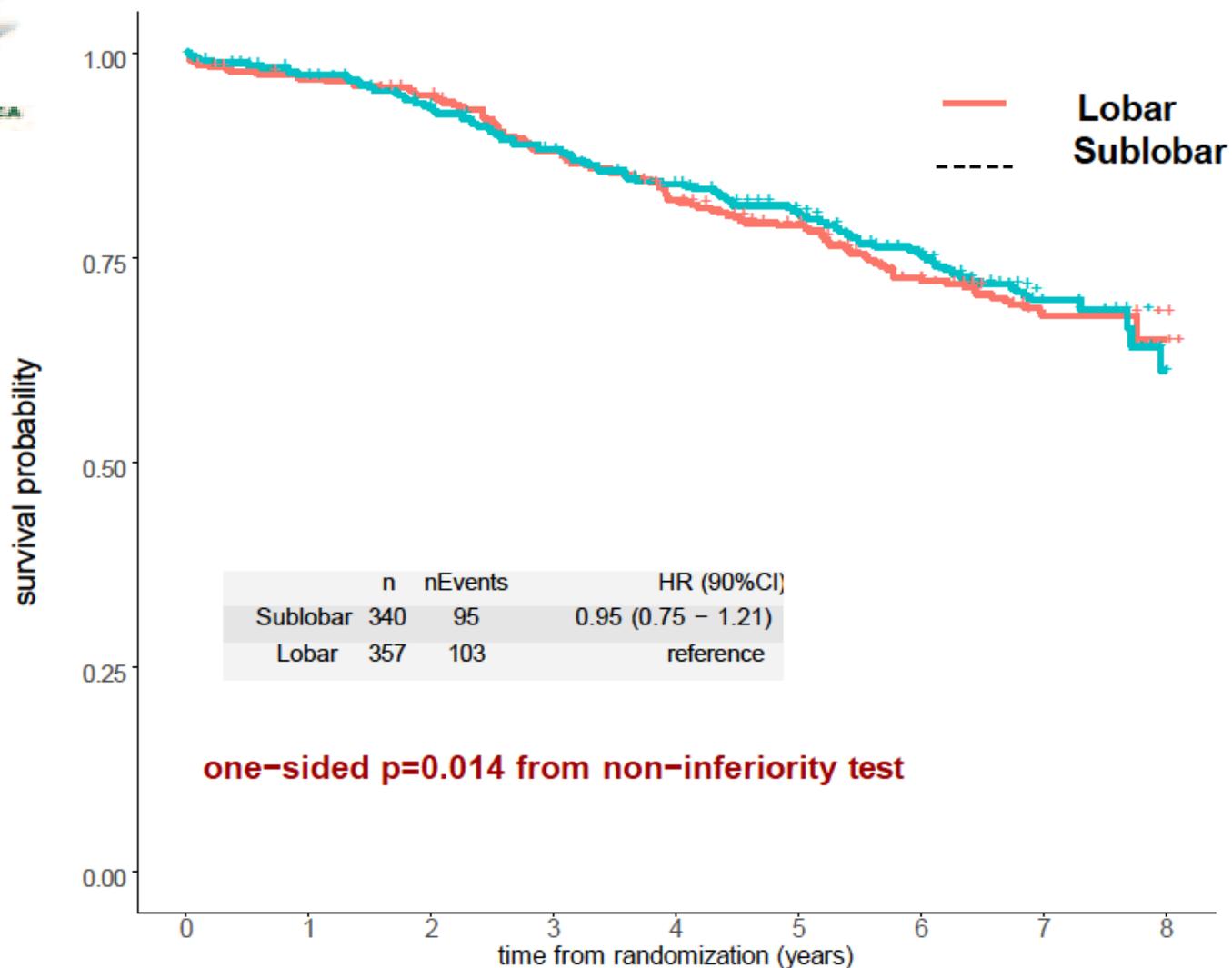
Five -year survival

SLR: 63.6%

Lobar: 64.1%

	No. at risk	0	1	2	3	4	5	6	7	8
Lobar	357	310	276	246	209	175	132	80	5	
Sublobar	340	291	254	222	201	172	123	78	6	

Overall Survival



	n	nEvents	HR (90%CI)
Sublobar	340	95	0.95 (0.75 – 1.21)
Lobar	357	103	reference

one-sided p=0.014 from non-inferiority test

Median follow-up: 7 years

Five –year survival

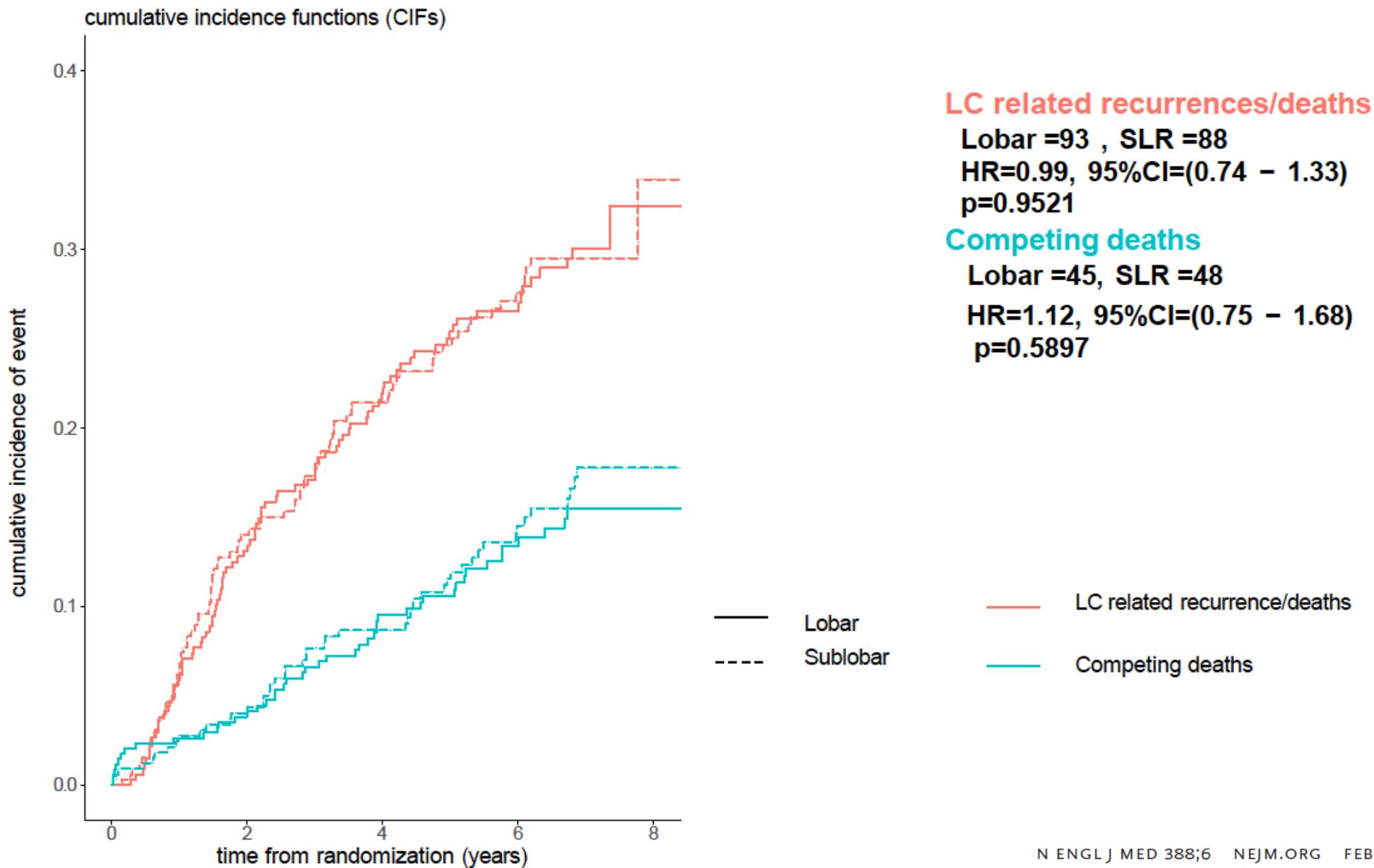
SLR: 80.3%

Lobar: 78.9%

No. at risk

Lobar	357	337	322	297	270	240	192	142	14
Sublobar	340	320	298	276	258	236	185	127	19

Lung cancer related events vs competing deaths



Lobar or Sublobar Resection for Peripheral Stage IA Non-Small-Cell Lung Cancer

Nasser Altorki, M.D., Xiaofei Wang, Ph.D, David Kozono, M.D., Ph.D., Colleen Watt, B.S.,
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Stephen Yang, M.D., John D. Mitchell, M.D., Harvey Pass, M.D., Robert Keenan, M.D., Thomas Bauer, M.D.,
Daniel Miller, M.D., Leslie J. Kohman, M.D., Thomas E. Stinchcombe, M.D., and Everett Vokes, M.D.

Conclusões

- Sublobar **não foi inferior** à Lobectomia em **SLD e SG**
- Recorrência em **30%** dos pacientes, sem diferença entre os grupos tanto na loco-regional quanto na sistêmica
- Redução VEF1 e CVF estatisticamente significativa mas sem significância clínica
- Impacto da **Ressecção em Cunha?**

Lobar or sub-lobar resection for peripheral clinical stage IA ≤ 2 cm
 NSCLC: Results from an international randomized phase III trial
 (CALGB 140503 [Alliance])



Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WJOG4607L): a multicentre, open-label, phase 3, randomised, controlled, non-inferiority trial

	CALGB(Alliance) 140503		JCOG0802/WJOG4607L	
	Lobar (n=357)	Sublobar (n=340)	Lobectomy (n=554)	Segmentectomy (n=552)
Median age (years)	67.6	68.2	67	67
Gender (%)				
Male	41.2	44.1	52.9	52.5
Female	58.8	55.9	47.1	47.5
ECOG PS (%)				
0	70	77.4	97.7	98.2
1	28.6	21.2	2.3	1.8
2	1.4	1.5	0	0
Tumor size (%)				
<1.0	8.4	8.2	median	median
1.0-1.5	50.4	51.2	1.6	1.6
>1.5-2.0	41.2	40.6		
Smoking Status (%)				
Never	9.8	8.2	44.1	44.2
Former	49.6	50.6	55.6	55.8
Current	40.6	41.2		
Histology (%)				
Squamous ca.	14.8	13.2	6.9	6.7
Adenoca.	63.3	64.1	90.4	90.9
Other	21.8	22.6	2.7	2.4

Lobar or sub-lobar resection for peripheral clinical stage IA ≤ 2 cm
 NSCLC: Results from an international randomized phase III trial
 (CALGB 140503 [Alliance])



Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WJOG4607L): a multicentre, open-label, phase 3, randomised, controlled, non-inferiority trial

	CALGB(Alliance)		JCOG/WJOG	
	5-y DFS	HR	5-y RFS	HR
Sublobar	63.6%	1.01	88.0%	0.998
		90%CI		95% CI
Lobar	64.1%	0.83 - 1.24	87.9%	0.753-1.323

	CALGB/Alliance		JCOG/WJOG	
	5-y OS	HR	5-y OS	HR
Sublobar	80.3%	0.95	94.3%	0.663
		95%CI		95% CI
Lobar	78.9%	0.75 - 1.21	91.1%	0.474-0.927

	CALGB(Alliance) 140503				vs.	JCOG0802/WJOG4607L			
	lobar (n=355)		Sublobar (n=337)			lobectomy (n=554)		Segmentectomy (n=552)	
	n	%	n	%		n	%	n	%
Any AE									
G2 or higher	126	35.5	97	25.7		142	25.6	148	26.8
G3 or higher	54	15.2	48	12.7		27	4.9	25	4.5
G5	4	1.1	2	0.6		0	0.0	0	0.0

Resumo

Ressecção em Cunha

$\leq 2 \text{ cm} + \text{CTR} \leq 0,25 + \text{terço periférico}$

Segmentectomia

$\leq 2 \text{ cm e CTR} \leq 0,25 + \text{“terço medular”}$

$2 \text{ a } 3 \text{ cm e CTR} \leq 0,5 + \text{terço periférico}$

$\leq 2 \text{ cm} + \text{CTR} > 0,5 + \text{terço periférico}$

Resumo

Várias dúvidas persistem...

Cunha vs Segmentectomia??? → CALGB140503

Subtipos histológicos?

Localização anatômica?

Acometimento pleural?

Qualidade técnica da ressecção fora dos Ensaio Clínicos???

Critérios de Qualidade

The IASLC Lung Cancer Staging Project: Analysis of Resection Margin Status and Proposals for Residual Tumor Descriptors for Non-Small Cell Lung Cancer

John G. Edwards, PhD, FRCS(C/Th),^{a,*} Kari Chansky, MS,^b Paul Van Schil, MD,^c Andrew G. Nicholson, FRCPath,^d Souheil Boubia, MD,^e Elisabeth Brambilla, MD,^f Jessica Donington, MD,^g Françoise Galateau-Sallé, MD,^h Hans Hoffmann, MD,ⁱ Maurizio Infante, MD,^j Mirella Marino, MD,^k Edith M. Marom, MD,^l Jun Nakajima, MD,^m Marcin Ostrowski, MD,ⁿ William D. Travis, MD,^o Ming-Sound Tsao, MD,^p Yasushi Yatabe, MD,^q Dorothy J. Giroux, MS,^b Lynn Shemanski, PhD,^b John Crowley, PhD,^b Marc Krasnik, MD,^r Hisao Asamura, MD,^s Ramón Rami-Porta, MD, FETCS,^{t,u} the International Association for the Study of Lung Cancer Staging and Prognostic Factors Committee, Advisory Board Members, and Participating Institutions**

R(un)

Avaliação linfonodal insuficiente (< SND ou LSND)

Linfonodo mediastinal mais alto ressecado positivo

Margem brônquica com carcinoma *in situ*

Citologia positiva no lavado pleural

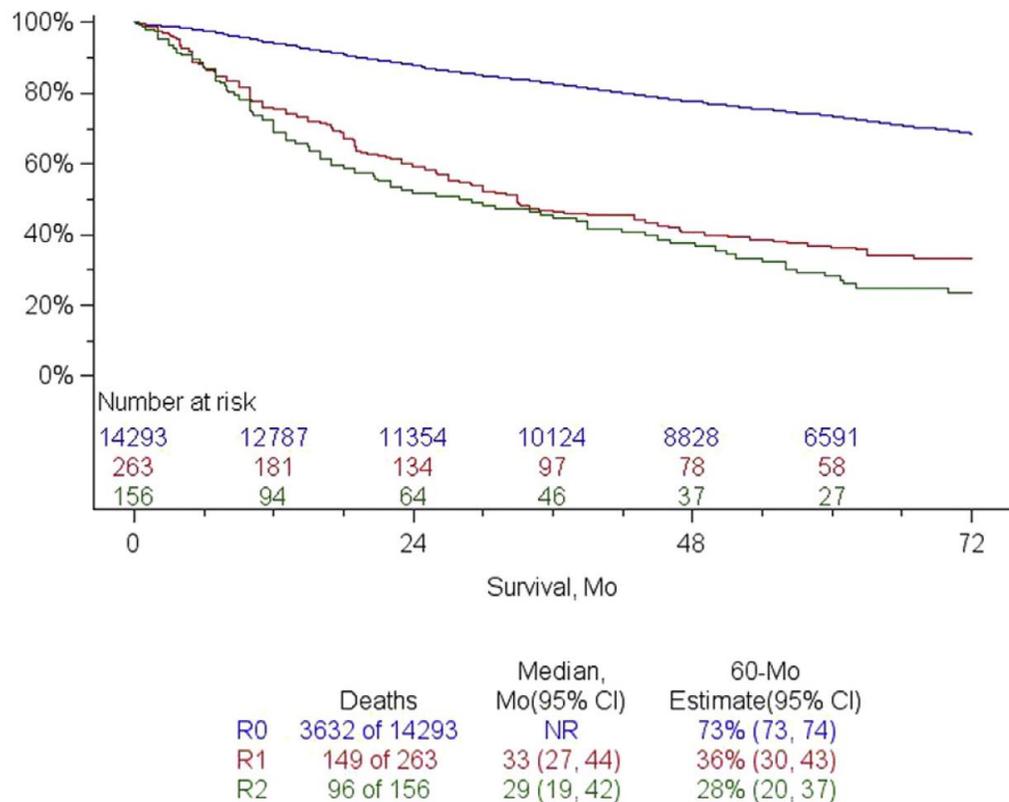
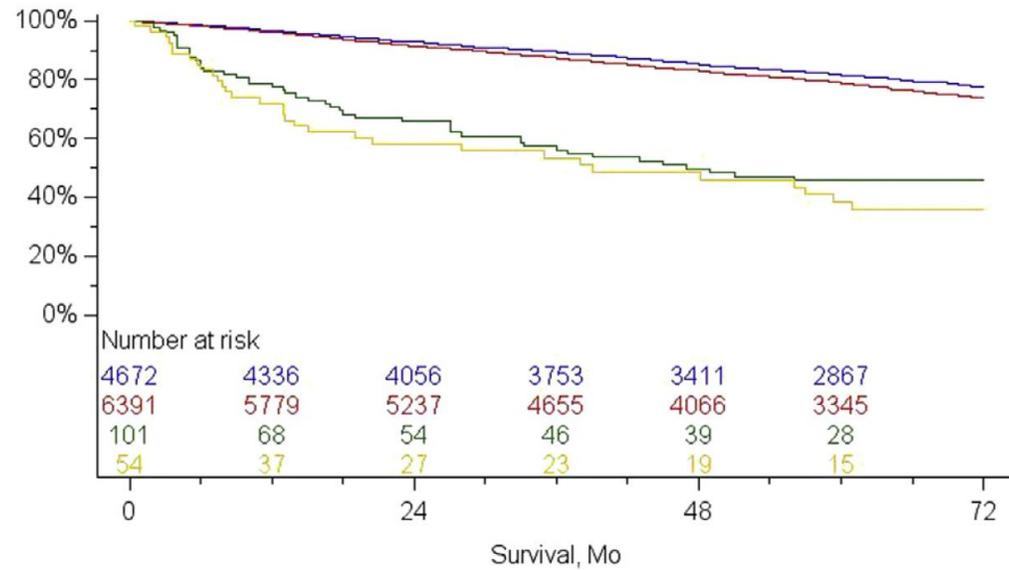
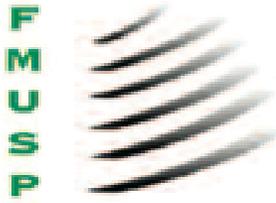


Figure 1. Survival according to conventional R (resection) status. NR, not reached.

Table 5. Reasons for Reassignment to the R(un) Category from the R0 Category

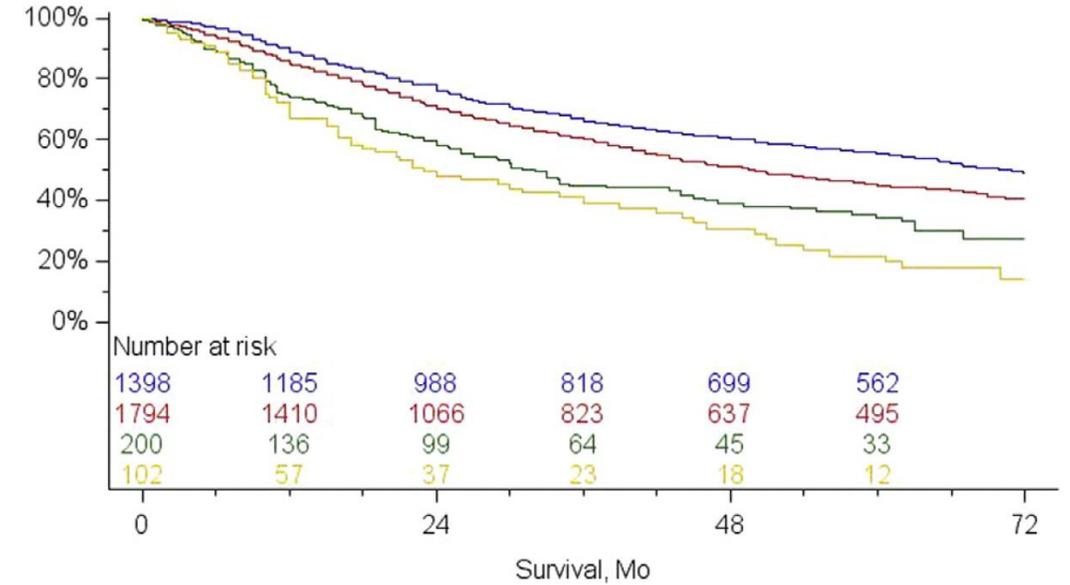
Reason	n	%
Highest station positive only	312	3.8%
Pleural lavage positive only	34	0.5%
Pleural lavage positive and highest station positive	4	0.05%
Any of the following: <3 N1 nodes, <3 N2 nodes, no station 7 nodes, no systematic nodal dissection, no lobe-specific nodal dissection	7824	95.7%

R(un), uncertain resection; R, resection.



	Deaths	Median, Mo(95% CI)	60-Mo Estimate(95% CI)
R0	863 of 4672	NR	82% (80, 83)
R(un)	1292 of 6391	NR	79% (78, 80)
R1	47 of 101	47 (33, .)	46% (35, 56)
R2	31 of 54	39 (15, 61)	38% (24, 53)

Figure 3. Survival according to the reassigned R (resection) status in pN0 cases. R(un), uncertain resection; NR, not reached.



	Deaths	Median, Mo(95% CI)	60-Mo Estimate(95% CI)
R0	608 of 1398	70 (65, .)	55% (52, 58)
R(un)	857 of 1794	50 (45, 55)	45% (42, 48)
R1	114 of 200	32 (25, 44)	34% (26, 42)
R2	65 of 102	23 (17, 36)	22% (12, 32)

Figure 4. Survival according to R (resection) status in node-positive cases. R(un), uncertain resection.

Complete Resection in Lung Cancer Surgery: From Definition to Validation and Beyond

Ramón Rami-Porta, MD,^{a,b,*} Christian Wittekind, MD,^c
Peter Goldstraw, MBChB, FRCS^{d,e}

R0

Integridade de todas as **margens**

Dissecção linfonodal sistemática ou lobo-específica (três cadeias mediastinais, sendo uma a 7 e demais dependendo do lobo e três cadeias hilares)

Integridade da capsula linfonodal das cadeias ressecadas separadamente

Cadeia linfonodal mais alta negativa

O que se espera de uma Cirurgiã Torácica



National
Comprehensive
Cancer
Network®

NCCN Guidelines Version 5.2023 Non-Small Cell Lung Cancer

PRINCIPLES OF SURGICAL THERAPY

Evaluation

- Determination of resectability, surgical staging, and *pulmonary resection should be performed by thoracic surgeons who perform lung cancer surgery as a prominent part of their practice.*
- CT and PET/CT used for staging should be within 60 days before proceeding with surgical evaluation.
- For medically operable disease, resection is the preferred local treatment modality (other modalities include SABR, thermal ablation such as radiofrequency ablation, and cryotherapy). Thoracic surgical oncology consultation should be part of the evaluation of any patient being considered for curative local therapy. In cases where SABR is considered for high-risk or borderline operable patients, a multidisciplinary evaluation including a radiation oncologist is recommended.
- The overall plan of treatment as well as needed imaging studies should be determined before any non-emergency treatment is initiated.
- Thoracic surgeons should actively participate in multidisciplinary discussions and meetings regarding patients with lung cancer (eg, multidisciplinary clinic and/or tumor board).
- Patients who actively smoke should be provided counseling and smoking cessation support ([NCCN Guidelines for Smoking Cessation](#)). While patients who actively smoke have a mildly increased incidence of postoperative pulmonary complications, these should not be considered a prohibitive risk for surgery. Surgeons should not deny surgery to patients solely due to smoking status, as surgery provides the predominant therapy for patients with early-stage lung cancer.

Resection

- Anatomic pulmonary resection is preferred for the majority of patients with NSCLC.
- Sublobar resection - Segmentectomy and wedge resection should achieve parenchymal resection margins ≥ 2 cm or \geq the size of the nodule.
- Sublobar resection should also sample appropriate N1 and N2 lymph node stations unless not technically feasible without substantially increasing the surgical risk.
- Segmentectomy (preferred) or wedge resection is appropriate in selected patients for the following reasons:
 - ▶ Poor pulmonary reserve or other major comorbidity that contraindicates lobectomy
 - ▶ Peripheral nodule^a ≤ 2 cm with at least one of the following:
 - ◊ Pure AIS histology
 - ◊ Nodule has $\geq 50\%$ ground-glass appearance on CT
 - ◊ Radiologic surveillance confirms a long doubling time (≥ 400 days)
- VATS or minimally invasive surgery (including robotic-assisted approaches) should be strongly considered for patients with no anatomic or surgical contraindications, as long as there is no compromise of standard oncologic and dissection principles of thoracic surgery.
- In high-volume centers with significant VATS experience, VATS lobectomy in selected patients results in improved early outcomes (ie, decreased pain, reduced hospital length of stay, more rapid return to function, fewer complications) without compromise of cancer outcomes.
- Lung-sparing anatomic resection (sleeve lobectomy) is preferred over pneumonectomy, if anatomically appropriate and margin-negative resection is achieved.
- T3 (invasion) and T4 local extension tumors require en-bloc resection of the involved structure with negative margins. If a surgeon or center is uncertain about potential complete resection, consider obtaining an additional surgical opinion from a high-volume specialized center.

Margins and Nodal Assessment (see [NSCL-B 2 of 4](#))

^a Peripheral is defined as the outer one third of the lung parenchyma.

The Role of Surgery in Patients with Stage IIIA (N2) NSCLC (see [NSCL-B 2 of 4](#) through [NSCL-B 4 of 4](#))

Ressecção R0

Margem

- Livres com 2CM ou mais ou igual ao diâmetro tumoral

Linfadenectomia

- Mínimo de 3 estações N2 e 3 N1.
- Cadeia superior negativa

Estadio IB ou superior devem ser referenciados ao oncologista

Critérios de Qualidade nas Sublobares?

Qualidade em Segmentectomia - Linfadenectomia

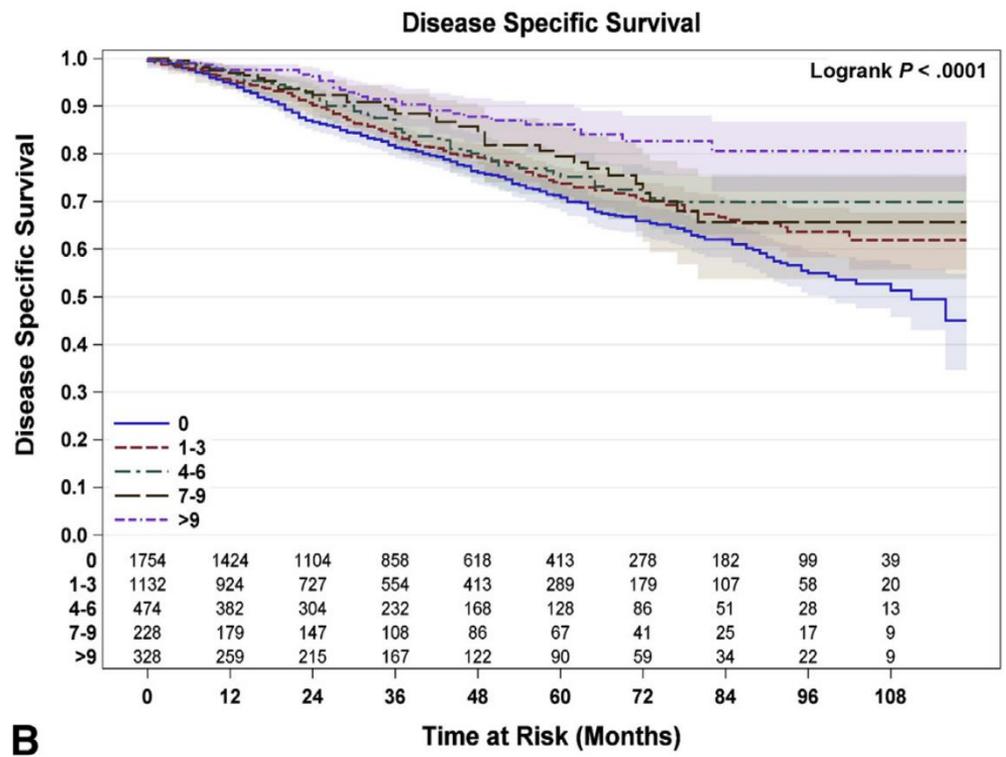
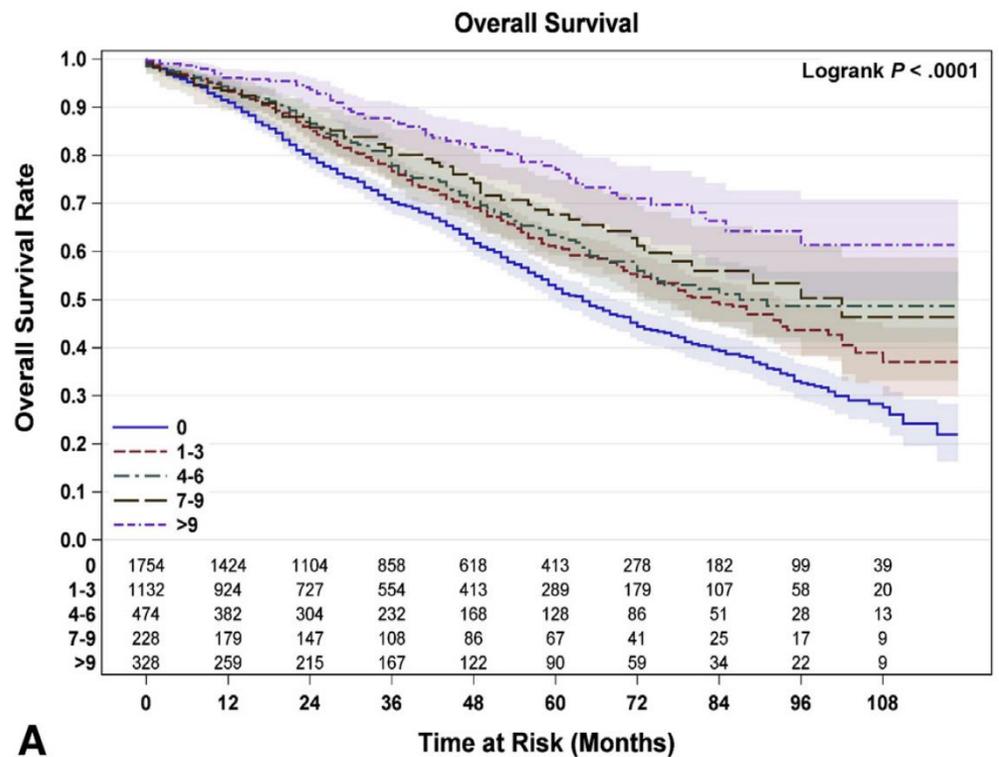
> J Thorac Cardiovasc Surg. 2018 Jul;156(1):394-402. doi: 10.1016/j.jtcvs.2018.03.113.

Epub 2018 Apr 4.

Effect of the number of lymph nodes examined on the survival of patients with stage I non-small cell lung cancer who undergo sublobar resection

Sai Yendamuri ¹, Samjot Singh Dhillon ², Adrienne Groman ³, Grace Dy ², Elisabeth Dexter ⁴, Anthony Picone ⁴, Chukwumere Nwogu ⁴, Todd Demmy ⁴, Mark Hennon ⁴

Critério isolado de melhor sobrevida em 5 anos.



When a segmentectomy is not a segmentectomy: Quality assurance audit and evaluation of required elements for an anatomic segmentectomy

Read at the 102nd Annual Meeting of The American Association for Thoracic Surgery, Boston, Massachusetts, May 14-17, 2022.

Kathleen D. Weiss MD, Ashley L. Deeb MD, Jon O. Wee MD, Scott J. Swanson MD, Raphael Bueno MD, Michael T. Jaklitsch MD, Matthew M. Rochefort MD  

Non-anatomic resections had decreased margin size, fewer total lymph nodes sampled, and fewer mediastinal lymph node stations sampled

		Anatomic	Non-Anatomic	p-value
All Histologies		219 (80.8%)	52 (19.2%)	
Tumor Size	mean	1.96	1.75	0.170
Margin Size	mean	1.80	1.20	0.007
Total LN Sampled	mean	6.95	2.19	<0.001
Total Mediastinal LN Stations Sampled	mean	1.77	0.96	<0.001
NSCLC Histology Only		149 (81.4%)	34 (18.6%)	
Tumor Size	mean	1.99	1.83	0.379
Margin Size	mean	2.03	1.40	0.017
Total LN Sampled	mean	7.39	2.41	<0.001
Total Mediastinal LN Stations Sampled	mean	1.95	1.09	<0.001

E a cunha ?

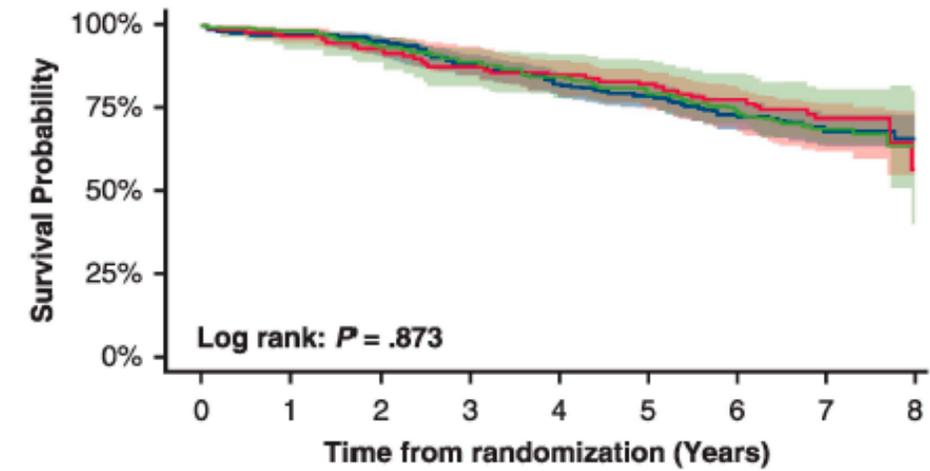
Lobectomy, segmentectomy, or wedge resection for peripheral clinical T1aN0 non-small cell lung cancer: A post hoc analysis of CALGB 140503 (Alliance)

Nasser Altorki, MD,^a Xiaofei Wang, MD,^b Bryce Damman, MD,^c Jennifer Mentlick, MD,^c Rodney Landreneau, MD,^d Dennis Wigle, MD,^e David R. Jones, MD,^f Massimo Conti, MD,^g Ahmad S. Ashrafi, MD,^h Moishe Liberman, MD,ⁱ Marc de Perrot, MD,^j John D. Mitchell, MD,^k Robert Keenan, MD,^l Thomas Bauer, MD,^m Daniel Miller, MD,ⁿ and Thomas E. Stinchcombe, MD^o

TABLE 1. Baseline demographic, clinical, and pathologic characteristics

Characteristic	Lobectomy (N = 362)	Wedge resection (N = 204)	Segmentectomy (N = 131)	Total (N = 697)	P value
Mediastinal node staging, n (%)					.02201
Complete dissection	96 (26.7)	58 (28.7)	28 (21.4)	182 (26.3)	
Systematic sampling	185 (51.4)	84 (41.6)	80 (61.1)	349 (50.4)	
Simple sampling	79 (21.9)	60 (29.7)	23 (17.6)	158 (22.8)	
Patients with positive nodes, n (%)					.04831
0	338 (93.4)	199 (97.5)	127 (96.9)	664 (95.3)	
1+	24 (6.6)	5 (2.5)	4 (3.1)	33 (4.7)	
Nodes sampled, mean (SD)	4.7 (1.45)	4.0 (1.30)	4.9 (1.46)	4.6 (1.46)	<.0001

Overall survival



No. at risk

	0	1	2	3	4	5	6	7	8
— Lobectomy	362	339	325	299	271	242	193	141	14
— Segment	131	123	114	101	97	93	75	49	6
— Wedge	204	195	181	173	160	141	109	79	13

	n	nEvents	HR (95% CI)	5-year OS (95% CI)
Lobectomy	362	103	reference	78.7 (74.5 - 83.2%)
Segment	131	35	0.90 (0.61 - 1.34)	81.9 (75.3 - 89.1%)
Wedge	204	60	0.97 (0.70 - 1.35)	79.7 (74.2 - 85.6%)

WR = Menos linfonodos amostrados e amostragem mais simples

E a cunha ?

Lobectomy, segmentectomy, or wedge resection for peripheral clinical T1aN0 non-small cell lung cancer: A post hoc analysis of CALGB 140503 (Alliance)

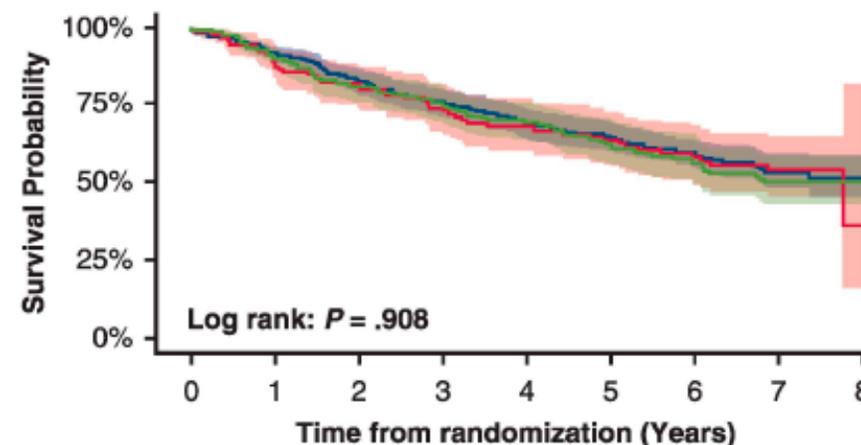
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TABLE 2. Margin length and margin-to-tumor ratio after wedge resection and segmental resection

Parameter	Wedge resection (N = 136)	Segmentectomy (N = 76)	P value
Length of surgical margin, cm, median	1.6	2	.031*
Length of surgical margin, n (%)			.254†
<1 cm	23 (16.9)	11 (14.5)	
1-<2 cm	47 (34.6)	16 (21.1)	
2-<3 cm	39 (28.7)	26 (34.2)	
3-<4 cm	15 (11.0)	13 (17.1)	
4-<6 cm	11 (8.1)	9 (11.8)	
6+ cm	1 (0.7)	1 (1.3)	
Margin-to-clinical tumor ratio, median	1.2	1.3	.070*
Distribution of margin-to-tumor ratio			.162†
<1	52 (38.2)	17 (22.7)	
1-<2	54 (39.7)	38 (50.7)	
2-<3	20 (14.7)	15 (20.0)	
3-<4	4 (2.9)	3 (4.0)	
4-<6	6 (4.4)	2 (2.7)	

*Kruskal-Wallis P value. †Chi-square P value.

Disease-free survival



No. at risk

	0	1	2	3	4	5	6	7	8
— Lobectomy	362	313	279	248	213	179	134	81	5
— Segment	131	112	98	82	74	66	49	30	2
— Wedge	204	176	153	138	123	102	72	47	4

	n	nEvents	HR (95% CI)	5-year DFS (95% CI)
Lobectomy	362	141	reference	64.7 (59.6 - 70.1%)
Segment	131	52	1.02 (0.74 - 1.40)	63.8 (55.6 - 73.2%)
Wedge	204	86	1.06 (0.81 - 1.39)	62.5 (55.8 - 69.9%)

A

WR = Margens significativamente menores

Margem – Plano intersegmentar

Segmentectomy versus lobectomy in small-sized peripheral non-small-cell lung cancer (JCOG0802/WJOG4607L): a multicentre, open-label, phase 3, randomised, controlled, non-inferiority trial



Hisashi Saji, Morihito Okada, Masahiro Tsuboi, Ryu Nakajima, Kenji Suzuki, Keiju Aokage, Tadashi Aoki, Jiro Okami, Ichiro Yoshino, Hiroyuki Ito, Norihito Okumura, Masafumi Yamaguchi, Norihiko Ikeda, Masashi Wakabayashi, Kenichi Nakamura, Haruhiko Fukuda, Shinichiro Nakamura, Tetsuya Mitsudomi, Shun-Ichi Watanabe, Hisao Asamura, on behalf of the West Japan Oncology Group and Japan Clinical Oncology Group*

Recurrence location	Lobectomy (N=554)	Segmentectomy (N=552)	P value*
Total	44 (7.9%)	67 (12.1%)	0.0214
Loco-regional	17 (3.1%)	38 (6.9%)	
Distant	14 (2.5%)	7 (1.3%)	
Loco-regional + distant	13 (2.3%)	20 (3.6%)	
Unclassified	0	2	
Proportion of local recurrence	30 (5.4%)	58 (10.5%)	0.0018

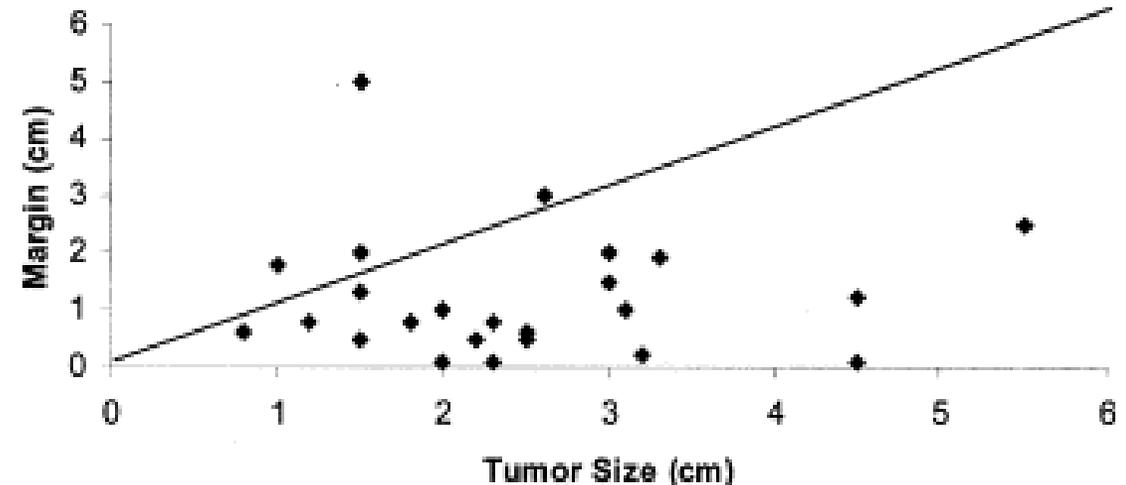
resection, even in early-stage lung cancer.²⁰ Although 22 segmentectomies were converted to lobectomy in the segmentectomy group due to lymph node metastasis, insufficient surgical margins, and other reasons, local relapses, including 11 surgical margins and two bronchial stumps, continued to occur in the segmentectomy group.

Anatomic Segmentectomy in the Treatment of Stage I Non-Small Cell Lung Cancer

Matthew J. Schuchert, MD, Brian L. Pettiford, MD, Samuel Keeley, MD, Thomas A. D'Amato, MD, PhD, Arman Kilic, BS, John Close, MA, Arjun Pennathur, MD, Ricardo Santos, MD, Hiran C. Fernando, MD, James R. Landreneau, James D. Luketich, MD, and Rodney J. Landreneau, MD

Division of Thoracic and Foregut Surgery, Heart, Lung and Esophageal Surgery Institute, UPMC Health System, Pittsburgh; Division of Thoracic Surgery, Jefferson Medical College, Philadelphia; and Department of Dental Public Health and Statistics, University of Pittsburgh, Pittsburgh, Pennsylvania; and Department of Cardiothoracic Surgery, Boston Medical Center, Boston, Massachusetts

Margem igual ao diâmetro tumoral ou >2cm



Margem – Plano intersegmentar

Unplanned Procedures During Thoracoscopic Segmentectomies



Dominique Gossot, MD, Jon Andri Lutz, MD, Madalina Grigoriou, MD, Emmanuel Brian, MD, and Agathe Seguin-Givelet, MD, PhD

Thoracic Department, Institut du Thorax Curie-Montsouris, Institut Mutualiste Montsouris, Paris, France; Division of General Thoracic Surgery, University Hospital Bern, Bern, Switzerland; and Paris 13 University, Sorbonne Paris Cité, Faculty of Medicine SMBH, Bobigny, France

Table 4. Additional Unplanned Pulmonary Resection

Reason for Change	Planned Segmentectomy	Reason for Additional Resection	Final Resection	Conversion	LOS
Technical					
1	Right S ¹⁺²	Vascular tear	RUL	Yes	10
2	Right S ¹	Unsatisfactory intersegmental plane	RUL	No	10
3	Left S ⁹⁺¹⁰	Unsatisfactory intersegmental plane	LLL	No	4
4	Right S ⁷⁺⁸	Nodule not found (was in S ⁹)	Basilar segmentectomy	No	4
5	Right S ¹	Nodule not found (was in S ²)	S ¹⁺²	No	4
6	Right basilar segmentectomy	Nodule not found (was in S ⁶)	RLL	No	6
Oncological					
7	Left S ¹⁺²⁺³	Invaded or borderline stapled line at FS	LUL	No	4
8	Right S ³	Invaded or borderline stapled line at FS	RUL	No	7
9	Left S ⁹⁺¹⁰	Invaded or borderline stapled line at FS	LLL	No	5
10	Right S ⁶	Invaded or borderline stapled line at FS	RLL	No	4
11	Right S ¹⁺²	Invaded or borderline stapled line at FS	RUL	No	21
12	Left S ⁸	Invaded or borderline stapled line at FS	LLL	No	6
13	Right basilar Segmentectomy	Positive intersegmental lymph node at FS	RLL	No	6
Adverse events					
14	Left S ¹⁺²⁺³	Lingular ischemia	LUL	No	7
15	Left S ¹⁺²⁺³	Lingular ischemia	LUL	Yes (thoracotomy at D5)	11

**Margem
8/15 = 53%**

Is wedge a dirty word? Demographic and facility-level variables associated with high-quality wedge resection

Check for updates

Micaela L. Collins, MD, MPH,^{a,b} Gregory L. Whitehorn, BS,^{a,b} Shale J. Mack, BS,^{a,b} Brian M. Till, MD,^{a,b} Hamza Rshaidat, MD,^{a,b} Tyler R. Grenda, MD, FACS,^{a,b} Nathaniel R. Evans III, MD, FACS,^{a,b} and Olugbenga T. Okusanya, MD, FACS^{a,b}

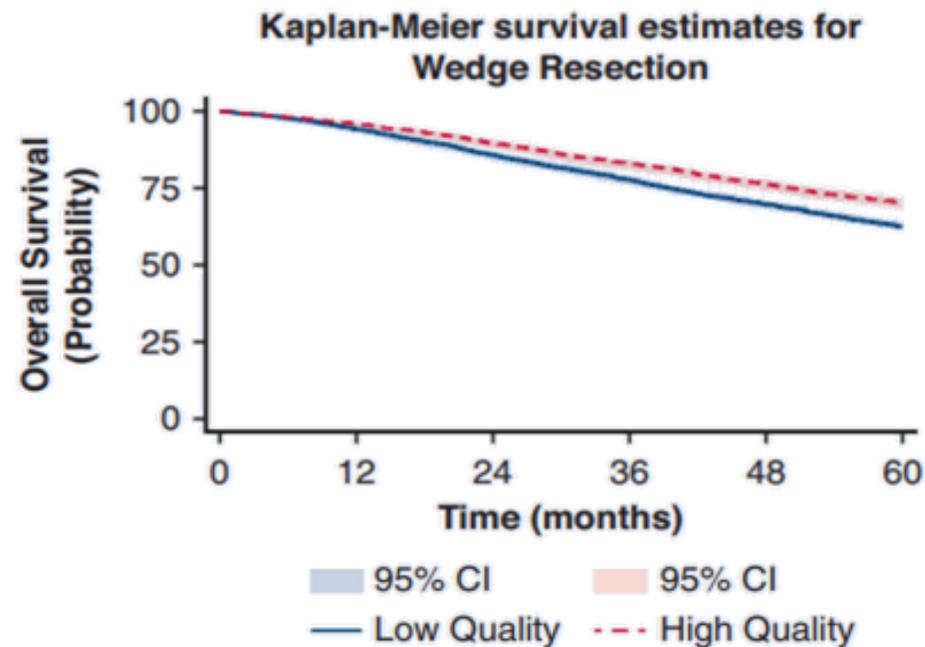
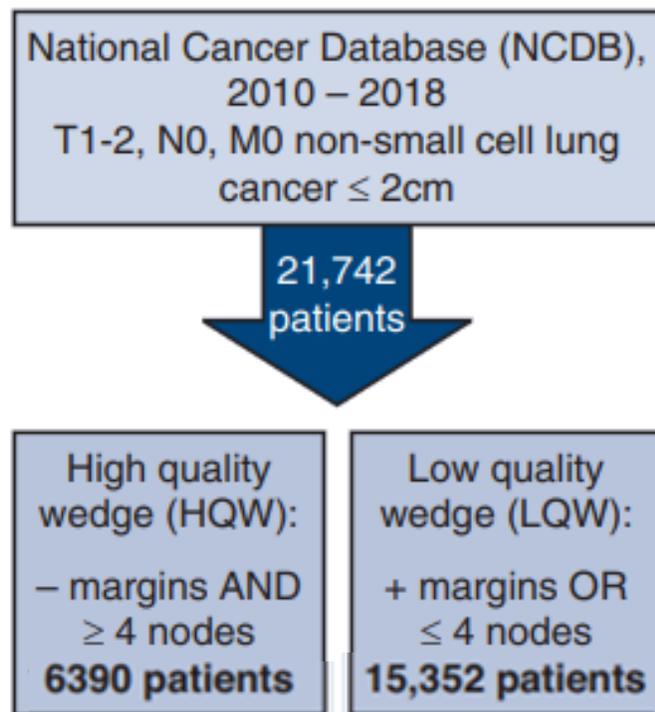


TABLE 2. Mortality after high-quality wedge and low-quality wedge resection

Category	Total N = 21,742	LQW N = 15,352	HQW N = 6390	P value
30-d mortality (%)				
Survived	21,559 (99.0%)	15,228 (99.2%)	6331 (99.1)	.40
Died	183 (0.8%)	124 (0.8%)	59 (0.9%)	
90-d mortality (%)				
Survived	21,408 (98.5%)	15,103 (98.4%)	6305 (98.7%)	.11
Died	334 (1.5%)	249 (1.6%)	85 (1.3%)	
5-y mortality (%)				
Survived	15,450 (71.1%)	10,548 (68.7%)	4902 (76.7%)	<.001
Died	6292 (28.9%)	4804 (31.3%)	1488 (23.3%)	

LQW, Low-quality wedge; HQW, high-quality wedge.

January 18, 2023

Association Between Surgical Quality Metric Adherence and Overall Survival Among US Veterans With Early-Stage Non-Small Cell Lung Cancer

Brendan T. Heiden, MD, MPHS¹; Daniel B. Eaton Jr, MPH²; Su-Hsin Chang, PhD, SM^{2,3}; [et al](#)

9628 pacientes, 2006-2016

5 Métricas de qualidade – VALCAN-O 0-13

Intervalo para cirurgia

MIS

Ressecção anatômica

Amostragem linfonodal adequada

Margens cirúrgica negativas

Relação com aumento das Sobrevidas Global e Livre de Recidiva

Association between surgical QMs and overall survival.

Variable ^a	aHR, 95% CI	β	P-value	Score ^b
Delayed surgery (≤ 12 vs > 12 weeks)	0.90 (0.85-0.95)	-0.11	<0.001	2
Surgical approach (minimally invasive vs open)	0.91 (0.86-0.97)	-0.09	0.002	2
Extent of resection (vs wedge)				
Lobectomy	0.79 (0.74-0.84)	-0.24	<0.001	5
Segmentectomy	0.80 (0.70-0.92)	-0.22	0.001	4
Pneumonectomy	1.18 (0.96-1.46)	0.17	0.13	0
Nodal sampling (≥ 10 vs < 10 nodes)	0.95 (0.89-1.01)	-0.05	0.09	1
Surgical margin (R0 vs R1+)	0.54 (0.47-0.62)	-0.61	<0.001	12

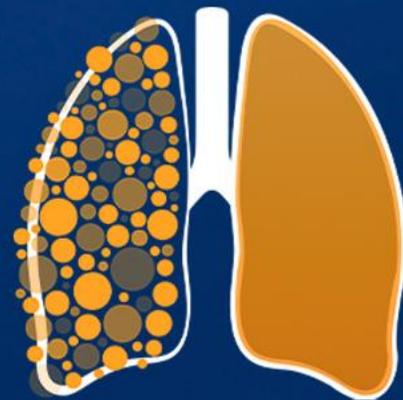
^aAlso controlling for age, sex, race, BMI, smoking status, Charlson score, number of prescriptions, hospital volume, tumor location, histology, tumor size.

^bMultiply score by 4.545 to generate the normalized score (0-100).

Conclusões

- Sublobares \simeq Lobectomia
 - pequenos e periféricos
- Segmentectomia vs Cunha
 - > margens e > linfonodos
- Independente da ressecção
 - linfadenectomia hilar e mediastinal
 - margens > 2 cm/tamanho do nódulo

Na dúvida, Lobectomia!!!



12º SIMPÓSIO
INTERNACIONAL DE

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2ª JORNADA ONCONNECTION MULTICARE

2024

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GERENCIAMENTO E PRODUÇÃO

