

20th ANNUAL

ATLANTA

LUNG CANCER SYMPOSIUM

Two Synchronous Lung Adenocarcinomas: One Cancer or Two?

Kingsley Nnawuba, MD · Rachel Medbery, MD

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Presenters



Kingsley Nnawuba, MD

Hematology/Oncology Fellow, Emory University / Winship Cancer Institute

Edith Peterson Mitchell, MD Health Equity Travel Scholarship, 2026
ASCO Conquer Cancer Annual Meeting Research Award (AMRA), 2025
ASH Hematology Opportunities for the Next Generation of Research Scientists (HONORS) Award, 2024



Rachel Medbery, MD

Assistant Professor of Surgery, Cardiothoracic Surgery, Emory University School of Medicine

Double board-certified general thoracic surgeon at Winship Cancer Institute of Emory University, focused on minimally invasive and robotic surgery for lung and esophageal cancer and a strong advocate for lung cancer screening. An Emory graduate through residency and thoracic fellowship, she spent five and a half years in Austin, Texas, where she built a robotic thoracic oncology program before returning to Atlanta.

Case presentation

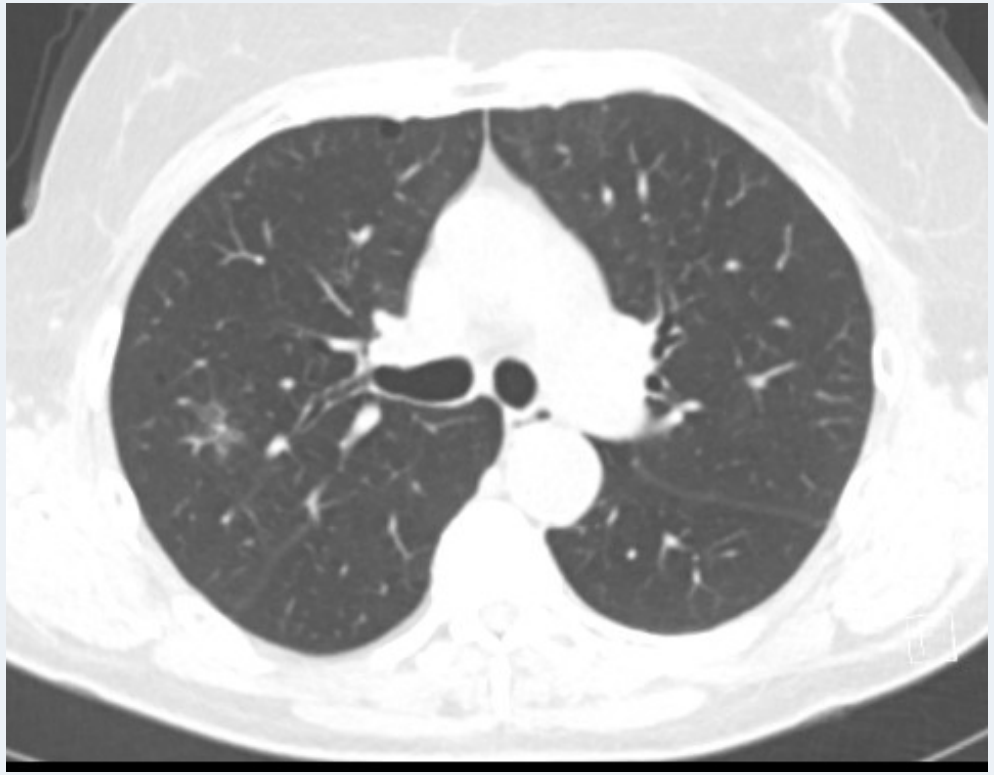
Patient

74-year-old woman, former smoker (36 pack-years, quit about 30 years ago). Asthma, emphysema, diabetes, hypertension, hyperlipidemia, CKD, anxiety. ECOG 0 to 1.

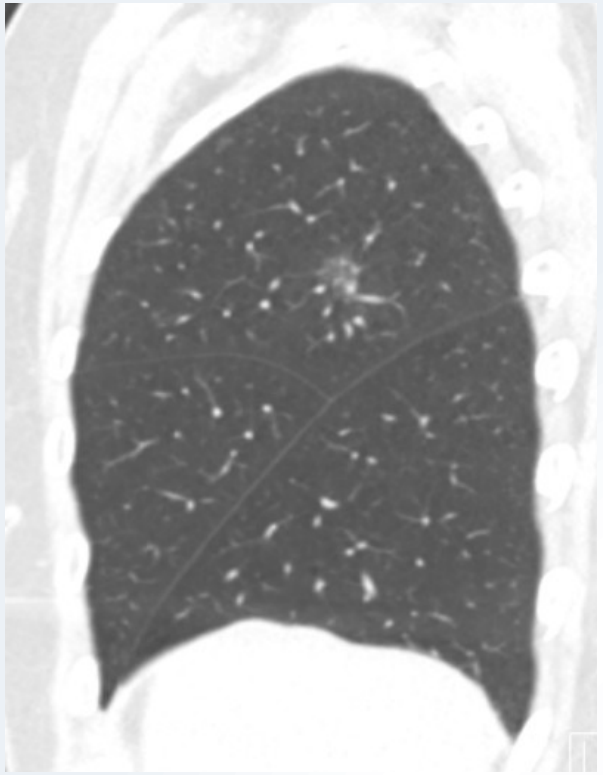
Imaging

Multiple pulmonary nodules followed since 2020. Screening CT: RML ground-glass nodule grew to 12 mm.

Right upper lobe nodule

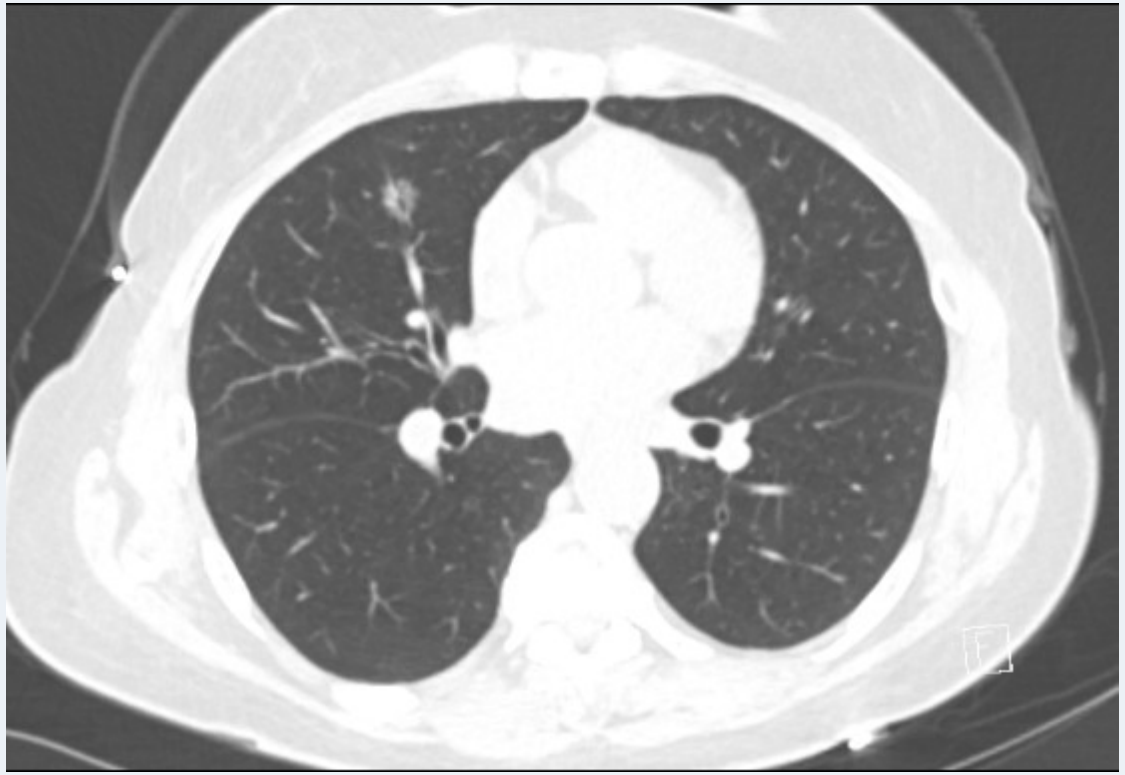


Axial



Sagittal

Right middle lobe nodule



Axial



Sagittal

Pre-operative workup

Pulmonary function

109	118	81
FEV1	**FVC**	**DLCO**

% predicted

PET

Negative for metastases. No suspicious nodes.

MRI brain

Negative for metastases

Pre-operative sampling

Right middle lobe

- Cryobiopsy: adenocarcinoma, micropapillary predominant, with lepidic patterned areas

Right upper lobe

- Cryobiopsy: adenocarcinoma, lepidic predominant, with focal simple acinar pattern invasion
- Nodule FNA: adenocarcinoma
- BAL: negative for malignant cells

Surgery

Multidisciplinary tumor board

Case discussed at the multidisciplinary tumor board (MDTB).

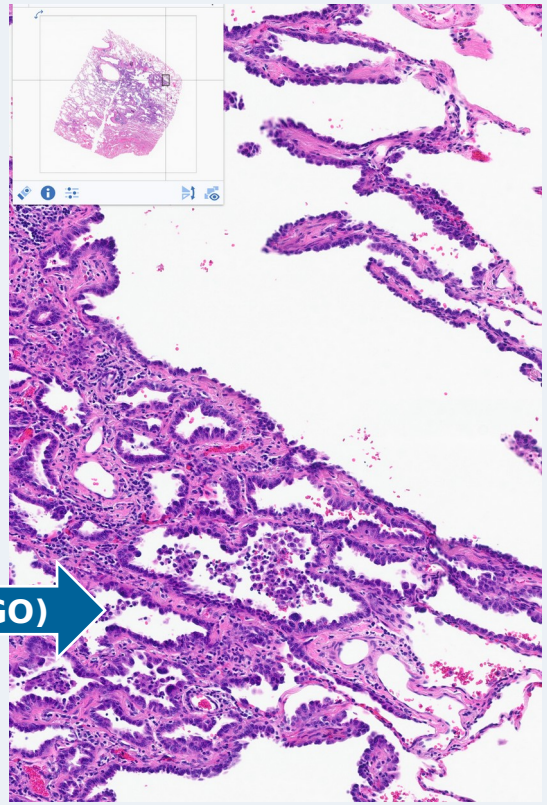
Procedure

Robotic right upper and middle bilobectomy with mediastinal and hilar nodal sampling.

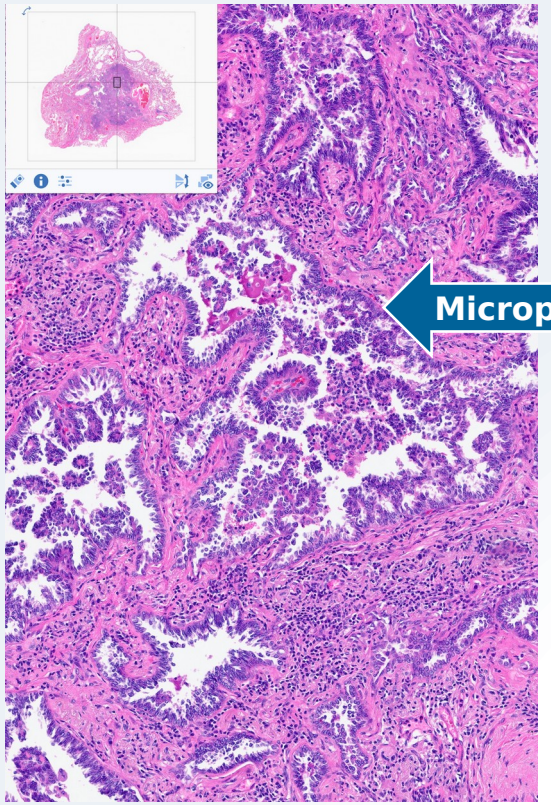
Surgical pathology

Feature	Right upper lobe	Right middle lobe
Pattern	Lepidic 65%, acinar 35%, mucin	Micropapillary 70%, acinar 25%, lepidic 5%
Size	1.6 cm	1.3 cm
Invasive focus	0.9 cm	1.3 cm
pT (AJCC 9)	pT1a (m)	pT1b (m)
Grade	G3	G3
KRAS	G12C	G12C
Margins, pleura, LVI, STAS	All negative	
Lymph nodes	pN0: all negative, at least 17 nodes examined	

Pathology: right upper and right middle lobe



Right upper lobe, 20X



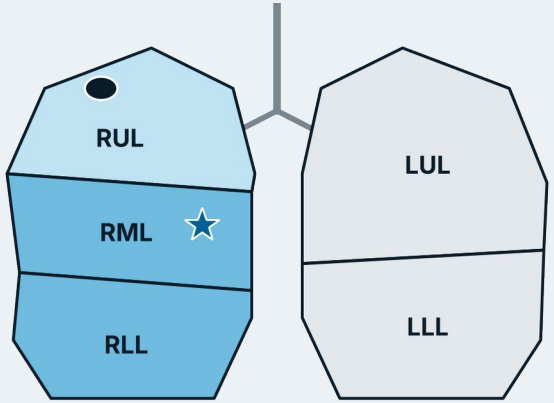
Right middle lobe, 20X

Molecular profiling: two Caris reports

Feature	RUL profile	RML (MI Cancer Seek)	Comparison
TMB	High, 13 mut/Mb	High, 14 mut/Mb	**Both high**
MSI	Stable	Stable	**Match**
Genomic LOH	Low (0%)	Low (0%)	**Match**
KRAS	Exon 2 p.G12C, pathogenic	Exon 2 p.G12C, pathogenic	**Match**
ALK, BRAF, EGFR, MET, RET, ROS1	Negative or not detected	Not detected	**Match**
PD-L1 (22C3)	Positive, TPS 2%	Not listed	**Not compared**
HLA type	A*02:01, A*74:01; B*15:03, B*49:01; C*07:01, C*02:10	Same	**Match**

So far: KRAS G12C, TMB-high and MSI stable in both tumors. A shared hotspot alone is weak evidence of clonality; compare co-mutations and copy number.

NCCN NSCLC staging: multiple lung nodules



- Same lobe as index nodule: T3
- Different ipsilateral lobe: T4
- Contralateral lobe: M1a
- Index nodule (RUL)
- ★ Second nodule (RML, this case)

Staging system

AJCC 9th edition TNM, adopted in the 2026 NCCN versions. N2 splits into N2a (single station) and N2b (multiple).

Separate nodules, one cancer

Same lobe: T3. Different ipsilateral lobe: T4. Contralateral lobe: M1a.

Separate primaries

Each tumor is staged on its own TNM. Consider molecular testing to separate primaries from intrapulmonary metastasis.

If one cancer: stage IIIA

Separate nodule in a different ipsilateral lobe is T4. All sampled nodes negative (N0), PET and brain MRI negative (M0): T4 N0 M0.

If two primaries: stage IA each

Pathology: RUL pT1a (0.9 cm invasive), RML pT1b (1.3 cm), both pN0, M0. Stage IA each (IA1 and IA2).

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Stage IIIA with a separate nodule, or two synchronous stage IA primaries?

The answer decides whether she is offered adjuvant chemo-immunotherapy.

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Weighing the evidence

Favors two primaries

- Different predominant histology
- No nodal, pleural, LVI or STAS disease
- Nodules tracked separately for years
- Pathology: two synchronous primaries, not intrapulmonary metastases
- pT1a and pT1b, pN0: stage IA each

Favors one cancer

- KRAS G12C in both tumors (both Caris profiles)
- Same ipsilateral lung, different lobes
- Counted as T4N0: stage IIIA
- G12C is a common hotspot, so weak proof alone

Management dilemma

Option A

Treat as IIIA: carboplatin and pemetrexed x4, then pembrolizumab for 1 year.

Option B

Treat as two IA primaries: surveillance CT, with tumor-informed ctDNA monitoring.

Questions for the panel

1. Does shared KRAS G12C establish clonality here?
2. Would you stage this IA or IIIA?
3. Does the micropapillary pattern justify adjuvant therapy in a stage I tumor?
4. How should a ctDNA result change the plan?

Treatment course

1

Surgery

Robotic right upper and middle bilobectomy. All 8 nodal specimens (7 stations) negative. Margins clear.

2

Post-op

Atrial fibrillation, treated with metoprolol, which she later stopped. Heart rate regular in the 50s at follow-up.

3

Adjuvant visit

Oncology offered carboplatin and pemetrexed x4, then pembrolizumab for 1 year. She and her daughter were reluctant, and she declined adjuvant therapy.

Monitoring and follow-up

Issue	Plan	Result
Recurrence risk	Tumor-informed Signatera ctDNA ordered; repeat every 3 months once drawn	Pending
Post-operative right pleural effusion with worsening exertional dyspnea	Stable on chest X-ray. Referred to interventional pulmonology for thoracentesis	Pending
Radiologic surveillance	Repeat CT chest in 3 months	October 2026 CT: no recurrence on surgeon review; final report pending
Atrial fibrillation	Post-op AF. Metoprolol stopped; sinus rhythm, rate in the 50s. Cardiac event monitor (MCOT)	14-day monitor: sinus rhythm, no atrial arrhythmia

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Additional Case

Presented by Rachel Medbery, MD

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Case presentation

Patient

74-year-old man with long standing history of tobacco abuse.

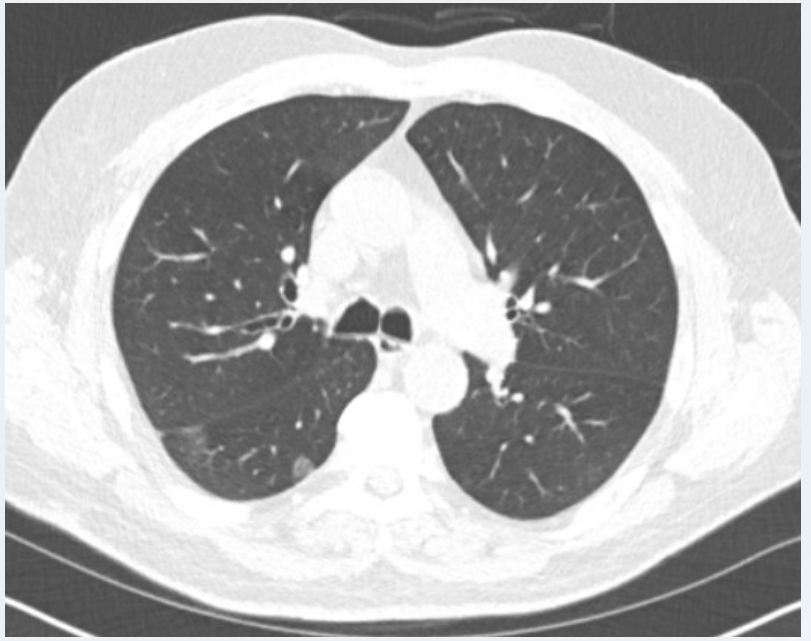
Imaging

Lung cancer screening with multiple RLL GGOs and new subpleural LLL nodule.

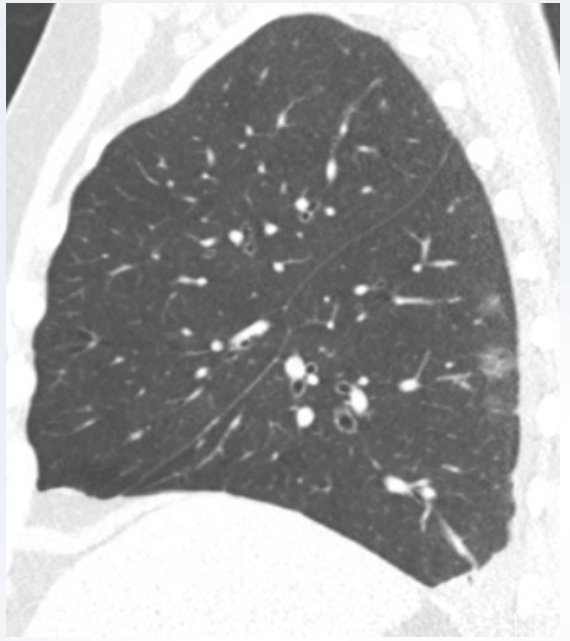
Right lower lobe nodules



Axial

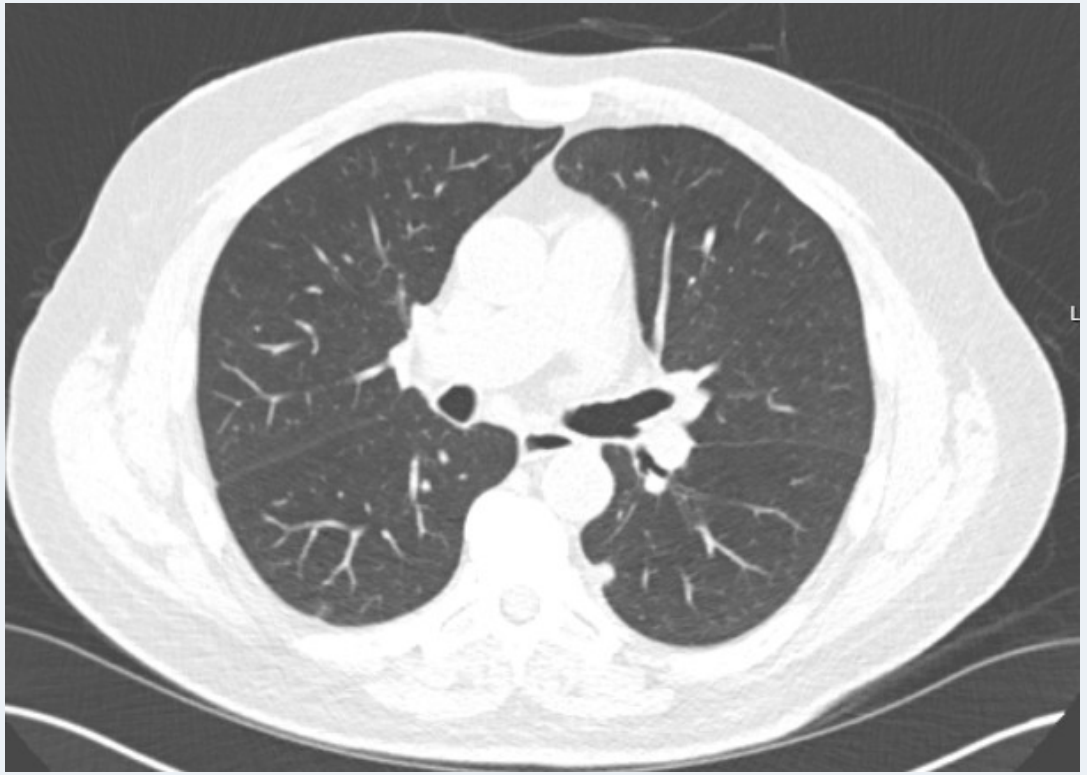


Axial

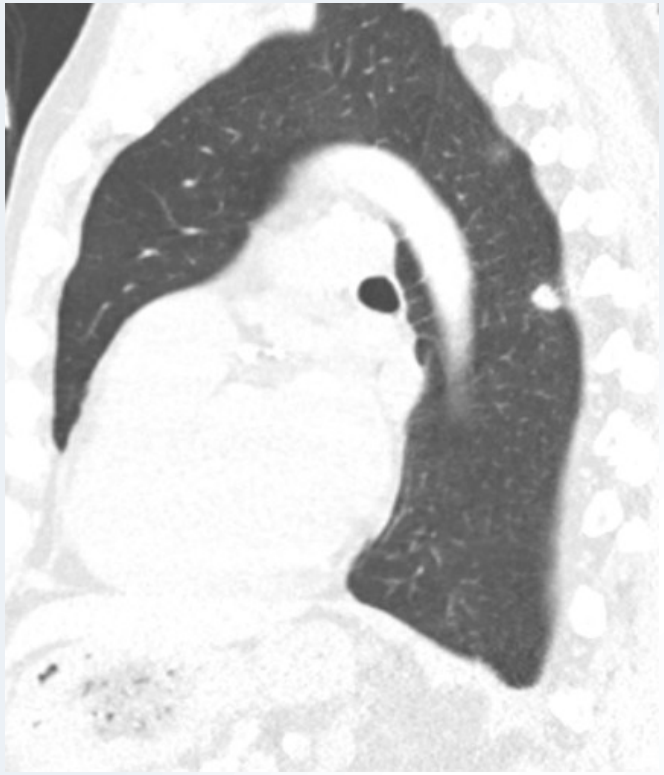


Sagittal

Left lower lobe nodule



Axial



Sagittal

Pre-operative transbronchial cryobiopsy

Right lower lobe

Adenocarcinoma, acinar pattern.
TTF-1/Napsin is positive/positive.

Left lower lobe

Non-diagnostic.

Pre-operative workup

Pulmonary function

98	102	99
FEV1	**FVC**	**DLCO**

% predicted

PET

Negative for metastases

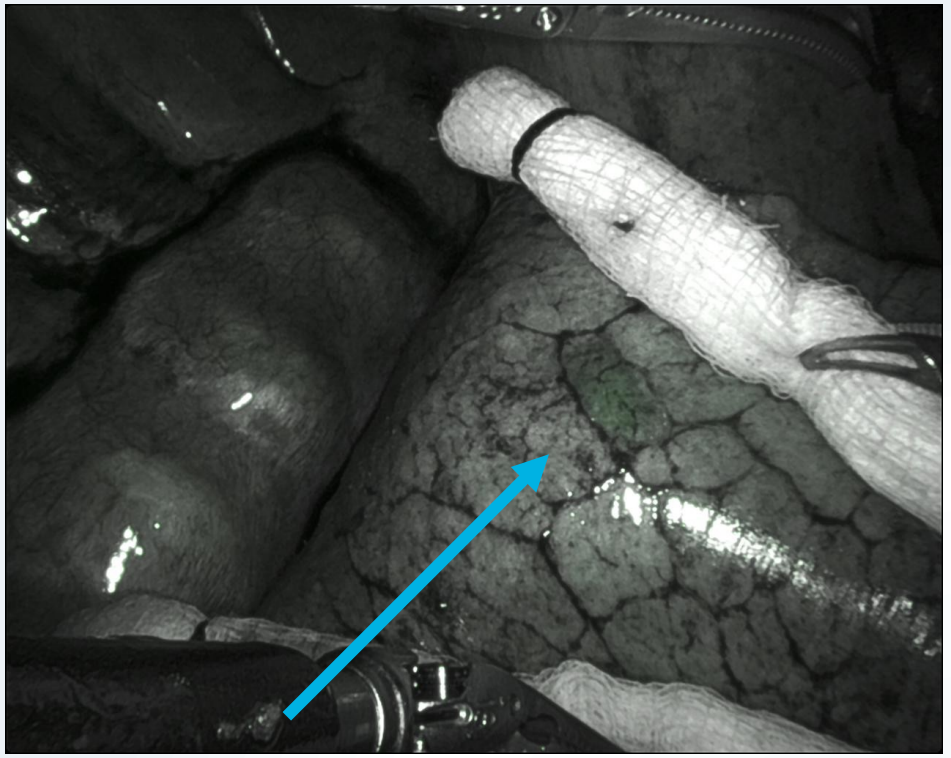
MRI brain

Negative for metastases

Surgery

Procedure

- Right lower lobe superior segment wedge with completion lobectomy
- Intraoperative frozen section confirmed additional foci of malignancy



Surgical pathology

Specimen	Size	Histology	Patterns
Nodule 1	0.5 cm	Adenocarcinoma, well differentiated	Lepidic type
Nodule 2	0.7 cm	Invasive adenocarcinoma, moderately differentiated	Papillary 65%, solid 20%, acinar 10%, micropapillary 5%
Nodule 3	0.9 cm	Invasive adenocarcinoma, moderately differentiated	Papillary 95%, micropapillary 5%
Nodule 4	1.6 cm	Invasive adenocarcinoma, moderately differentiated	Papillary 75%, acinar 20%, micropapillary 5%
Wedge resection	0.7 cm	Invasive adenocarcinoma, moderately differentiated	Papillary 85%, acinar 10%, micropapillary 5%

Right lower lobe excision: multifocal adenocarcinoma, 4 nodules, 0.5 to 1.6 cm

Invasion and margins: No pleural, lymphovascular or perineural invasion. Margins negative (3 mm). STAS focally identified.

Lymph nodes: Levels 4R, 7, 9R and 11R negative for metastatic carcinoma (11R: 0 of 1 node).

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Questions from the audience

Open discussion

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References

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3. The Radiology Assistant. TNM classification 9th edition (lung cancer). radiologyassistant.nl
4. The New 9th Version TNM Classification for Lung Cancer Is Now in Use. PMC12862260. pmc.ncbi.nlm.nih.gov
5. Genomic classification of intrapulmonary metastasis and multiple primary lung cancer. Clin Transl Med. 2025. doi:10.1002/ctm2.70463



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Thank you for listening

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