MDT Discussion

Chair: Dr David Woolf
Consultant Clinical Oncologist

Mr Alessandro Brunelli
Consultant Thoracic Surgeon

Dr Craig Dyer
Consultant Respiratory Physician and Clinical Lead

Dr Kevin Franks
Consultant Clinical Oncologist

Dr Spyros Gennatas
Consultant Medical Oncologist

Ms Emma Halkyard
Advanced Nurse Practitioner

Dr Anna Sharman
Consultant Thoracic Radiologist

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THINK AGAIN

Disclosures

Dr David Woolf: I have received honoraria for travel expenses from Roche and Elekta, for consultancy services from Genesis Care and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Mr Alessandro Brunelli: I have received honoraria for my participation in advisory boards from AstraZeneca, Bristol Myers Squibb, Merck Sharp & Dohme, Roche, Medtronic, Medela and Ethicon, and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Dr Craig Dyer: I have received honoraria from Roche, Lilly, and AstraZeneca, and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Dr Kevin Franks: I have received honoraria for consultancy and my participation in advisory boards from AstraZeneca, Amgen, BioNTech, Boehringer-Ingelheim, Bristol Myers Squibb, Lilly, Roche, and Takeda, and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Dr Spyros Gennatas: I have received honoraria for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Ms Emma Halkyard: I have received honoraria from Takeda, AstraZeneca, Roche, Daiichi Sankyo, and Janssen, and for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

Dr Anna Sharman: I have received honoraria for my participation in the 2024 Think Again Lung Summit from AstraZeneca.

MDT Discussion

Case study 1

Mr Alessandro Brunelli, Dr Kevin Franks and Dr Spyros Gennatas

Based on a real patient case studiy, with certain features adapted.

THINK AGAIN

63-year-old female

- **Presented to the GP with a cough**
- **CXR showed a large mass and went on to have a CT and a biopsy**

CT, computed tomography; CXR, chest radiography; GP, general practitioner.

Speaker's clinical expertise.

PMH

- **Asthma**
- **Type 2 DM**
- **Hypertension**
- **Previous left MCA aneurysm clip**
- **Ex-smoker: 15 pack-years**
- **ECOG PS 1**

DM, diabetes mellitus; ECOG PS, Eastern Cooperative Oncology Group Performance Status; MCA, middle cerebral artery; PMH, past medical history.

Speaker's clinical expertise.

DH

- **Metformin**
- **Losartan**
- **Salbutamol**
- **Escitalopram**
- **Lansoprazole**
- **Gliclazide**
- **Seretide**
- **Diazepam**

Please refer to the individual SmPCs for each product before prescribing, to review detailed information on indications, posology, special warnings, adverse events and their management.

DH, drug history; SmPCs, Summary of Product Characteristics.

Speaker's clinical expertise.

Imaging

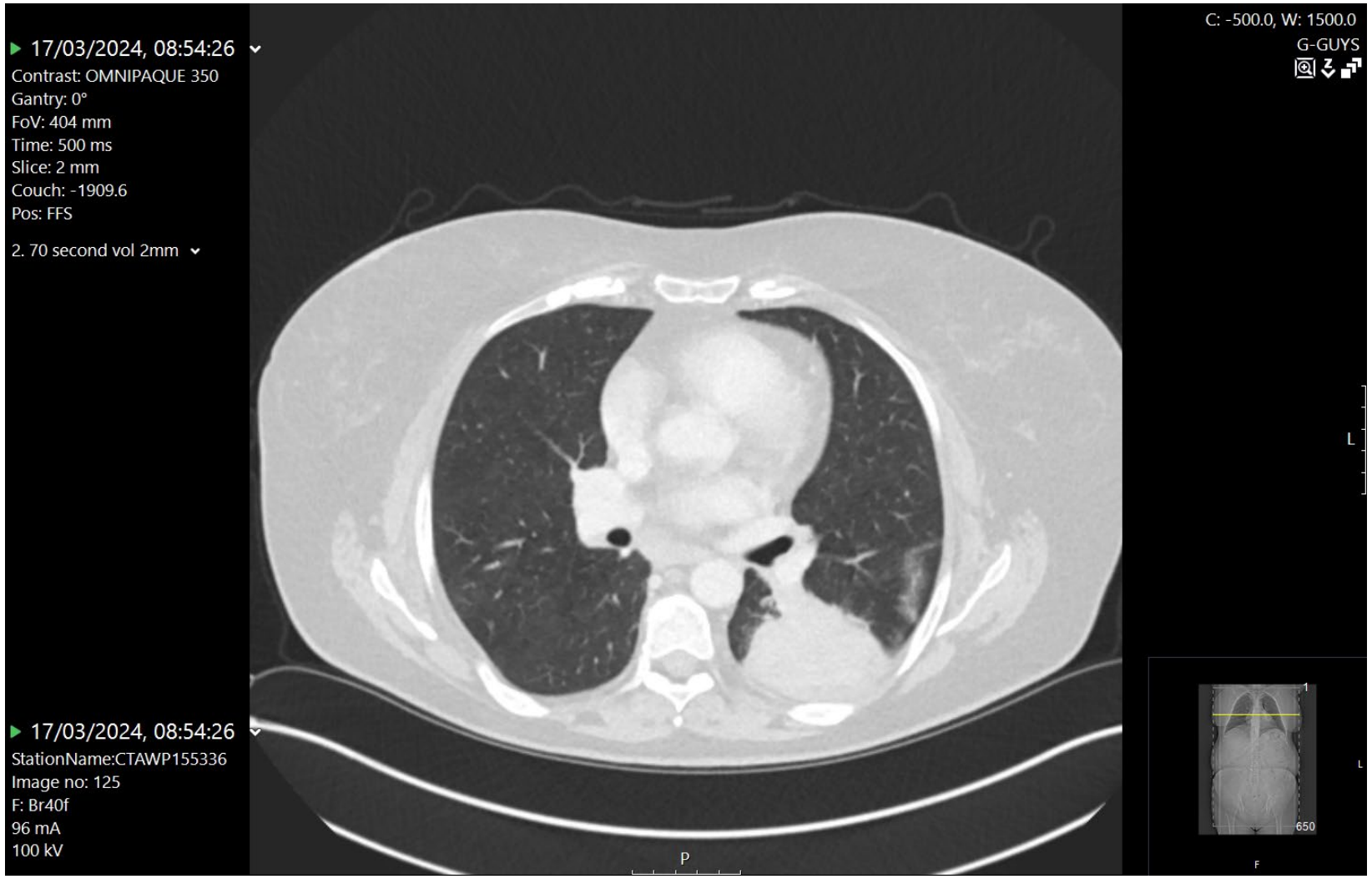


Image provided courtesy of speaker.

T4N0M0

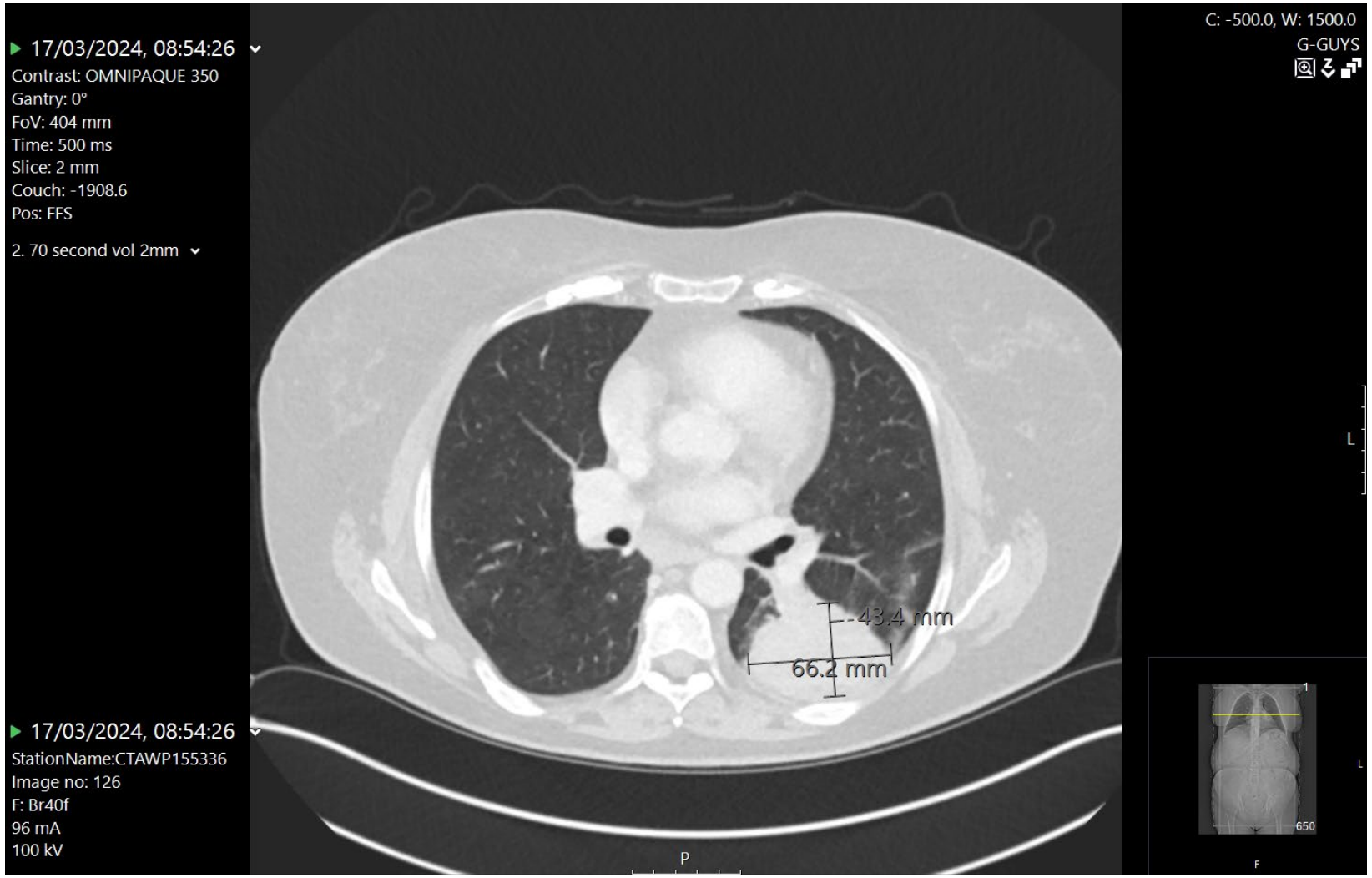


Image provided courtesy of speaker.

Biopsy

- **TTF-1** positive adenocarcinoma
- **PD-L1** 10%, **ALK/ROS1** negative on IHC
- ***EGFR, KRAS, BRAF, MET, ERBB2*** WT

ALK, anaplastic lymphoma kinase; BRAF, v-raf murine sarcoma viral oncogene homolog B1; EGFR, epidermal growth factor receptor; ERBB2, v-erb-b2 avian erythroblastic leukaemia viral oncogene homolog 2; IHC, immunohistochemistry; KRAS, Kirsten rat sarcoma viral oncogene homolog; MET, mesenchymal epithelial transition factor receptor; PD-L1, programmed death ligand 1; ROS1, ROS proto-oncogene 1; TTF-1, thyroid transcription factor 1; WT, wild type.

Speaker's clinical expertise.

Pulmonary function tests

- **FEV1**: 1.88 (86%)
- **FEV1/FEV**: 72%
- **FVC**: 2.54 (98%)
- **KCO**: 1.90 (122%)

FEV, forced expiratory volume; FEV1, forced expiratory volume in the first second; FVC, forced vital capacity; KCO, carbon monoxide transfer coefficient.

Speaker's clinical expertise.

What would you do next?

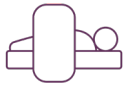
THINK AGAIN

Surgery

Chemotherapy

Chemo-immunotherapy

SABR/radiotherapy



PET

EBUS

EBUS, endobronchial ultrasound; PET, positron emission tomography; SABR, stereotactic ablative radiotherapy.

Speaker's clinical expertise.

What would you do next?

THINK AGAIN

1. Surgery
2. Chemotherapy
3. Chemo-immunotherapy
4. SABR/Radiotherapy
5. **PET → No metastatic disease**
6. EBUS

EBUS, endobronchial ultrasound; PET, positron emission tomography; SABR, stereotactic ablative radiotherapy.

Speaker's clinical expertise.

Let's remind ourselves

- **T4N0M0 LLL adenocarcinoma**
- **PD-L1 10%**
- **Molecular diagnostics all negative**
- **Very good lung function**

LLL, left lower lobe; PD-L1, programmed death ligand 1.

Speaker’s clinical expertise.

What treatment would you offer next?

THINK AGAIN

Bi-lobectomy

Pneumonectomy

Chemotherapy

Chemo-immunotherapy

SABR/radiotherapy

EBUS, endobronchial ultrasound; PET, positron emission tomography; SABR, stereotactic ablative radiotherapy.

Speaker's clinical expertise.

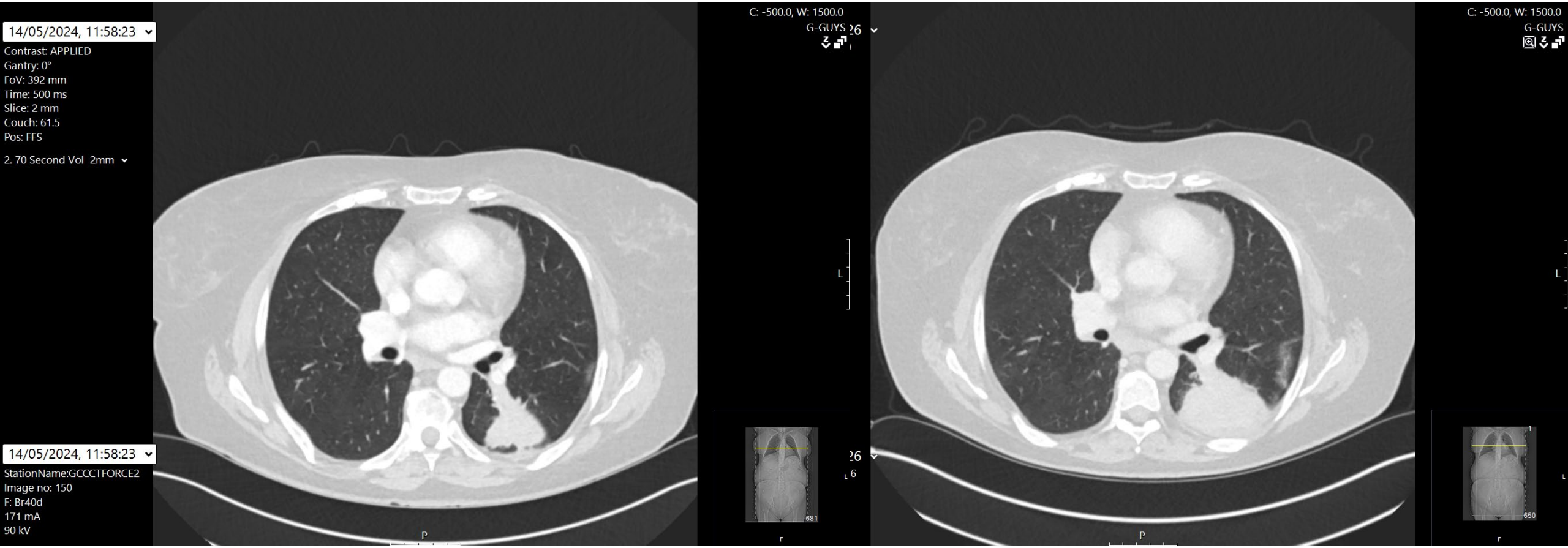
This was supposed to be straight-forward

1. Bi-lobectomy
2. Pneumonectomy
3. Chemotherapy
4. **Chemo-immunotherapy → Neoadjuvant chemo-immunotherapy**
5. SABR/Radiotherapy

SABR, stereotactic ablative radiotherapy.

Speaker's clinical expertise.

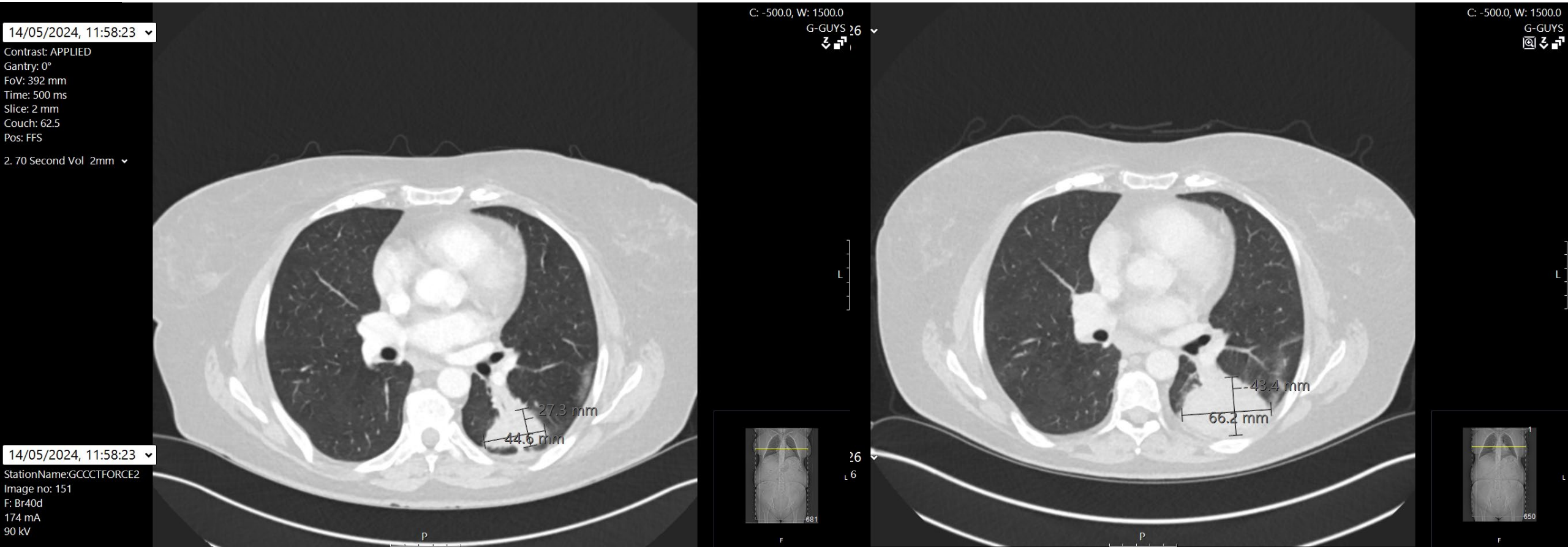
Bonus content – CT post 3 cycles of chemo-immunotherapy



CT, computed tomography.

Images provided courtesy of speaker.

Bonus content – CT post 3 cycles of chemo-immunotherapy



CT, computed tomography.

Images provided courtesy of speaker.

MDT Discussion

Case study 2

Mr Alessandro Brunelli, Dr Craig Dyer and Dr Kevin Franks

Based on a real patient case studiy, with certain features adapted.

THINK AGAIN

67/Male Tyre Fitter

Persistent complaints

3/52
- Cough, non-productive
- Weight loss (4-5kg)

6/12
- Progressive SOB
- Exertional fatigue – tolerance 500m (flat)

SOB, shortness of breath.

Speaker's clinical expertise.

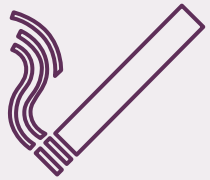
67/Male Tyre Fitter

Past medical history

- Performance Status - 1
- Hypercholesterolaemia
- Type 2 Diabetes Mellitus

Smoking history

- Smoker – 60 pack year history
- Possible occupational asbestos exposure
- Lives alone – partner died last year



Speaker's clinical expertise.

Bloods

Results				
Hb	105 (L)		**Na**	143
Plt	421 (H)		**K**	4.6
MCV	70 (L)		**Urea**	10.1 (H)
WCC	12.0 (H)		**Creat**	107
Neut	10.4			
Lymph	0.6		**HbA1c**	78 (H)
B12	371		**LFT**	Normal
Folate	23.2		**Bone**	Normal
Ferr	10 (L)			
T-Sat	5 (L)			

B12, vitamin B12; Creat, creatinine; Ferr, ferritin; Hb, hemoglobin; HbA1c, hemoglobin A1c; K, potassium; LFT, liver function tests; Lymph, lymphocyte count; MCV, mean corpuscular volume; Na, sodium; Neut, neutrophil count; Plt, platelet count; T-Sat, transferrin saturation; Urea, urea nitrogen; WCC, white cell count.

Data provided courtesy of speaker.

Modifiable risk factors?

- **Prehabilitation**
- **Dietetics**
- **Diabetic review**
- **Airways management**
- **Smoking cessation**
- **Iron replacement**
- **Social support / finance support / psychology input**

Speaker's clinical expertise.

Radiology

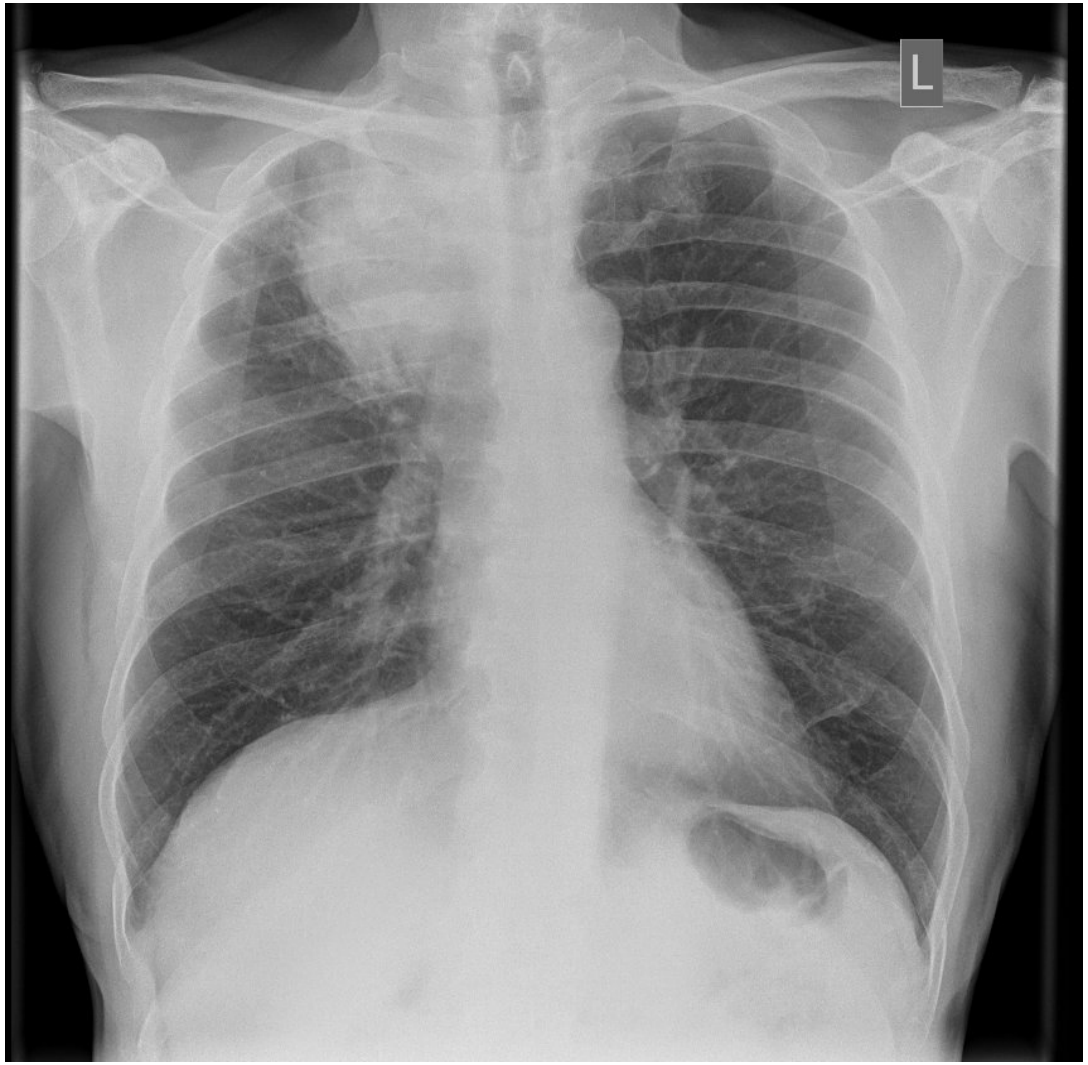


Image provided courtesy of speaker.

Radiological summary

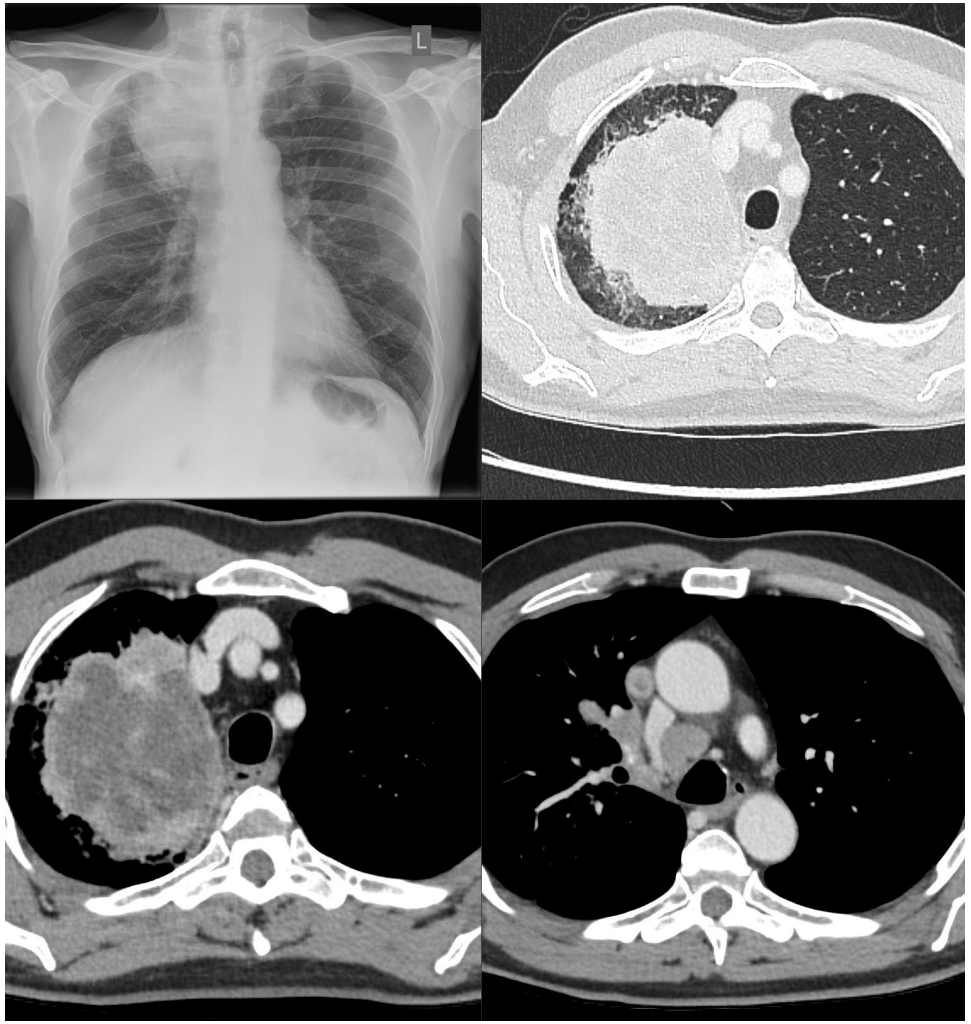


Image provided courtesy of speaker.

Staging CT

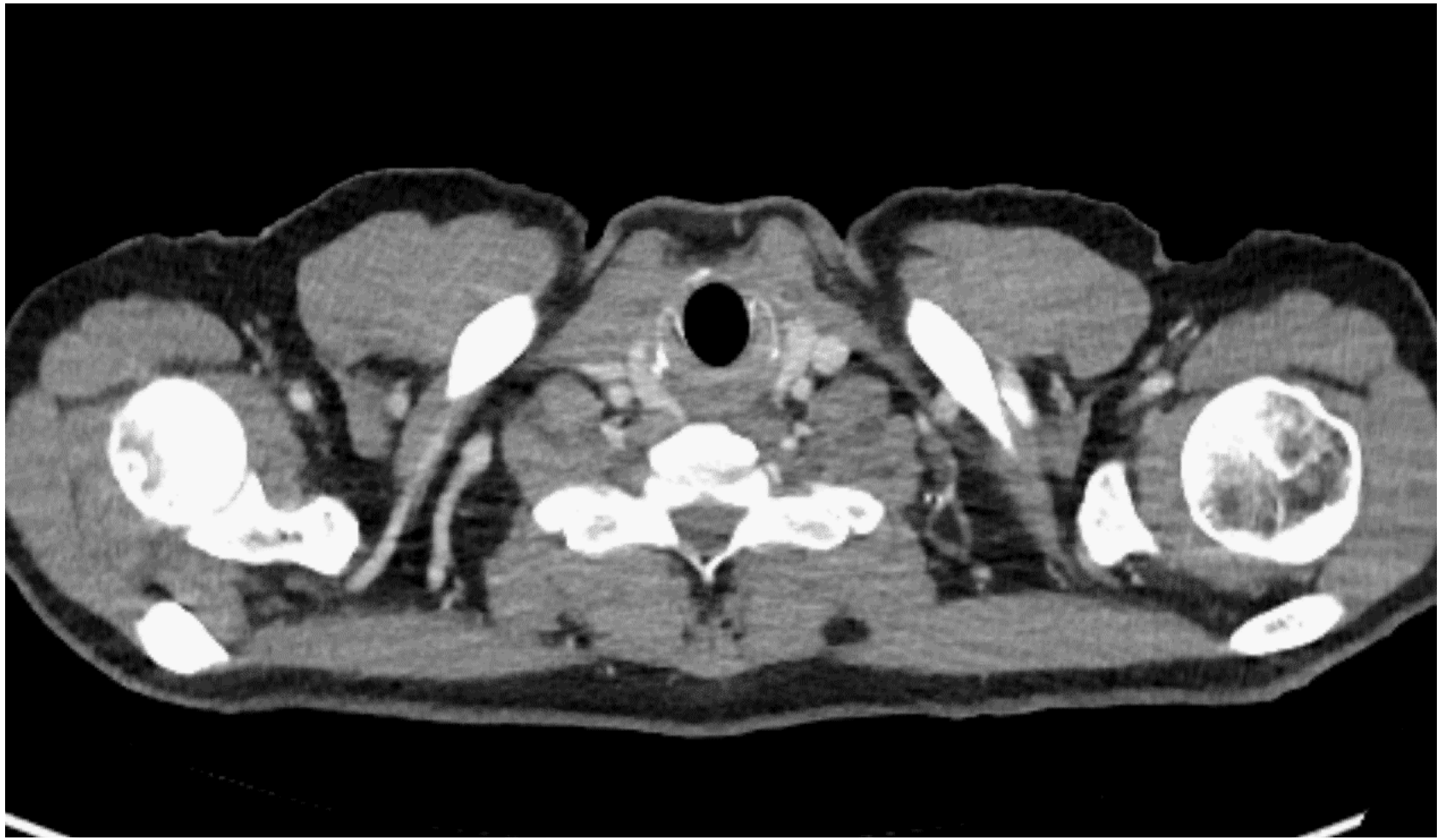
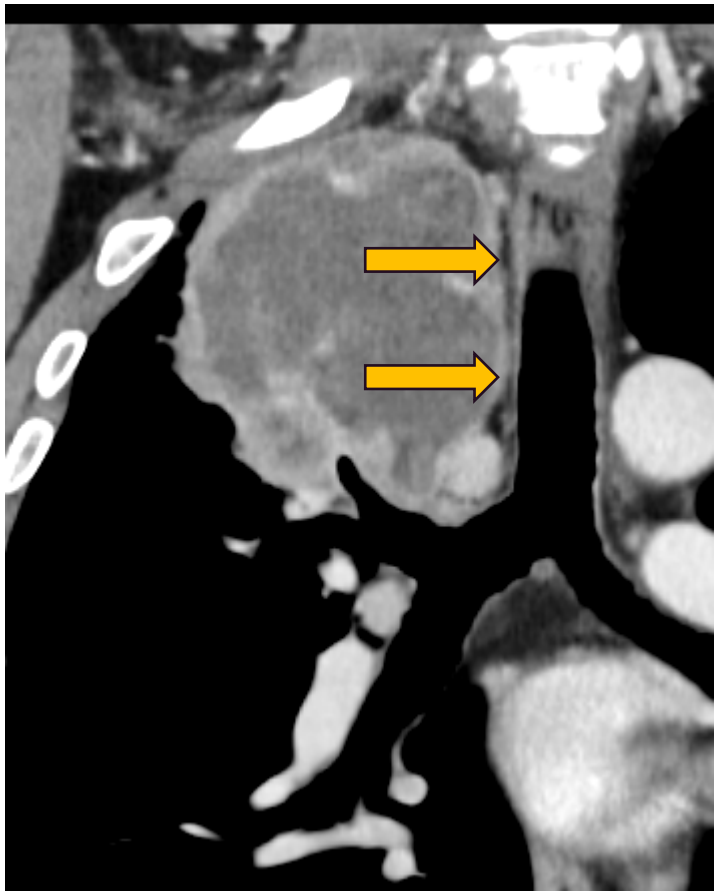


Image provided courtesy of speaker.

Mediastinal fat plane



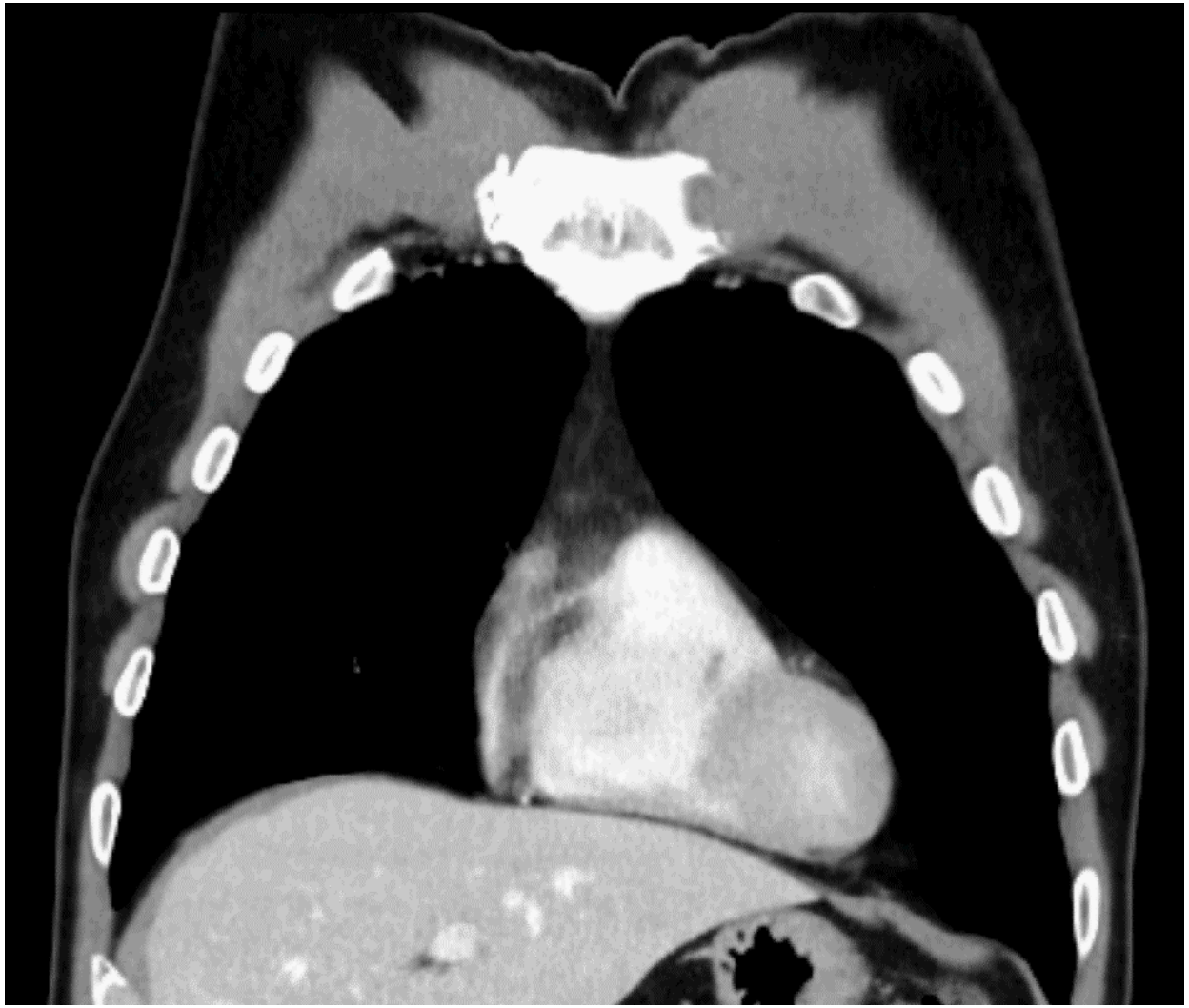


Image provided courtesy of speaker.

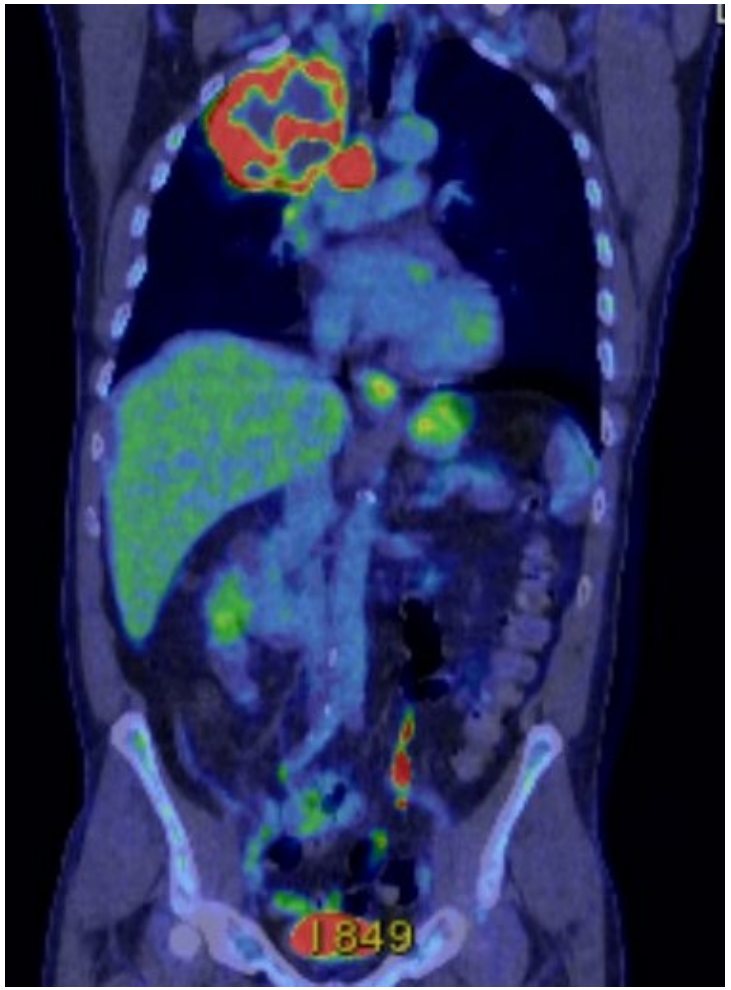
Next steps

- **CT PET**
- **Bronchoscopy**
- **EBUS**
- **CT Guided Biopsy**
- **CT-DNA**

CT, computed tomography; CT-DNA, circulating tumor DNA; EBUS, endobronchial ultrasound; PET, positron emission tomography.

Speaker's clinical expertise.

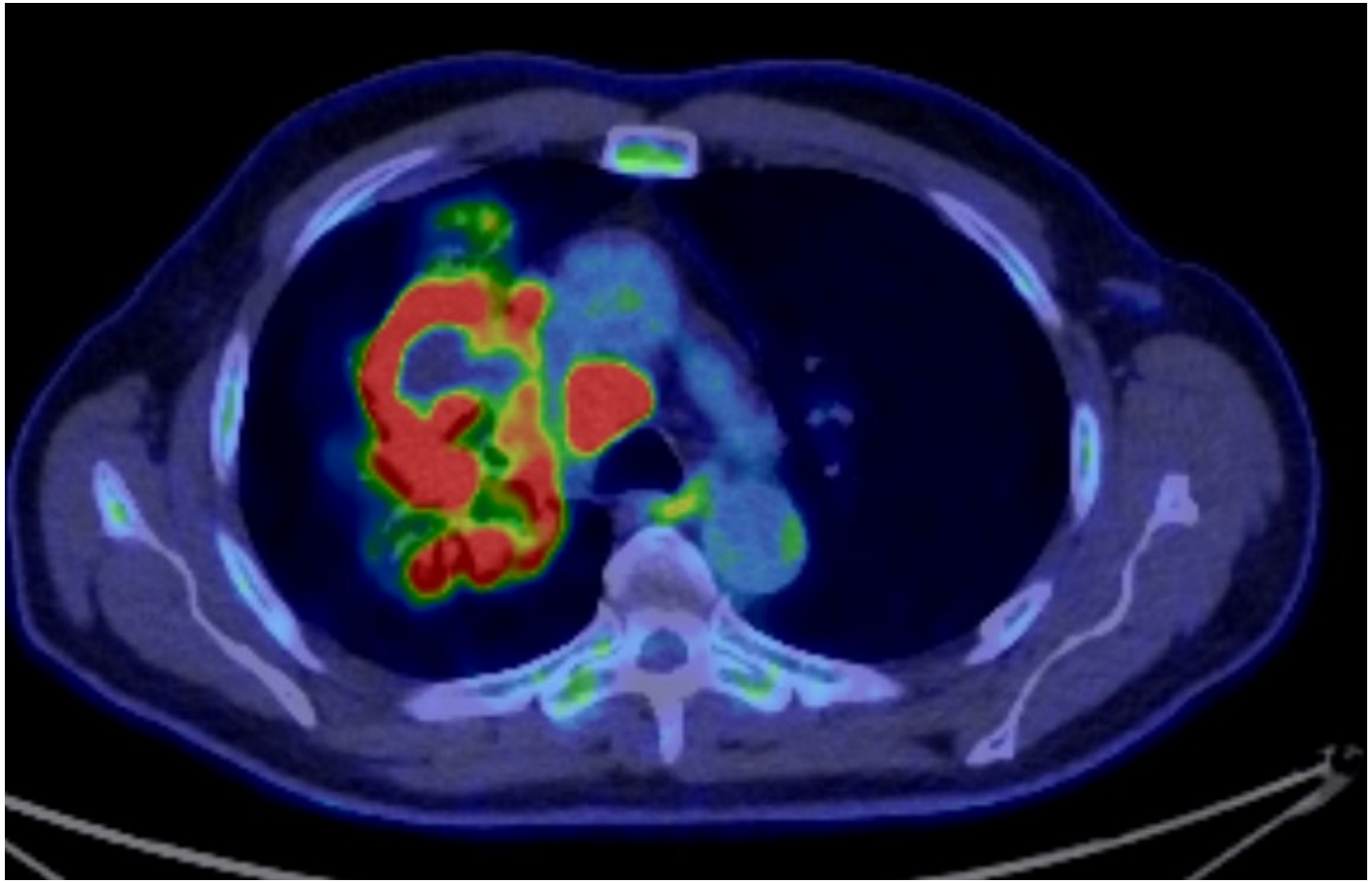
CT-PET

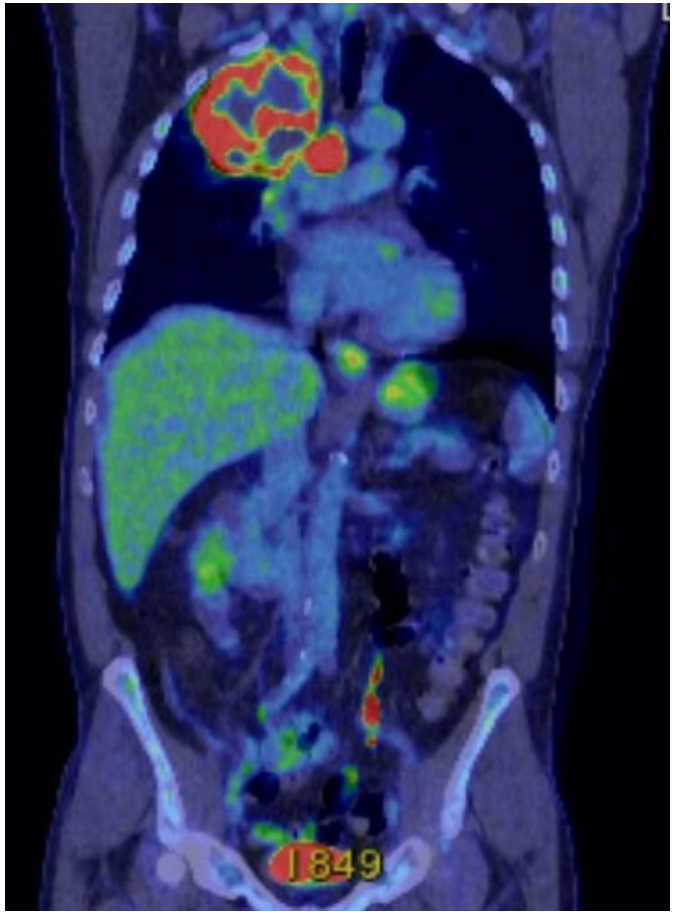


CT-PET=computed tomography-positron emission tomography.

Image provided courtesy of speaker.

CT-PET

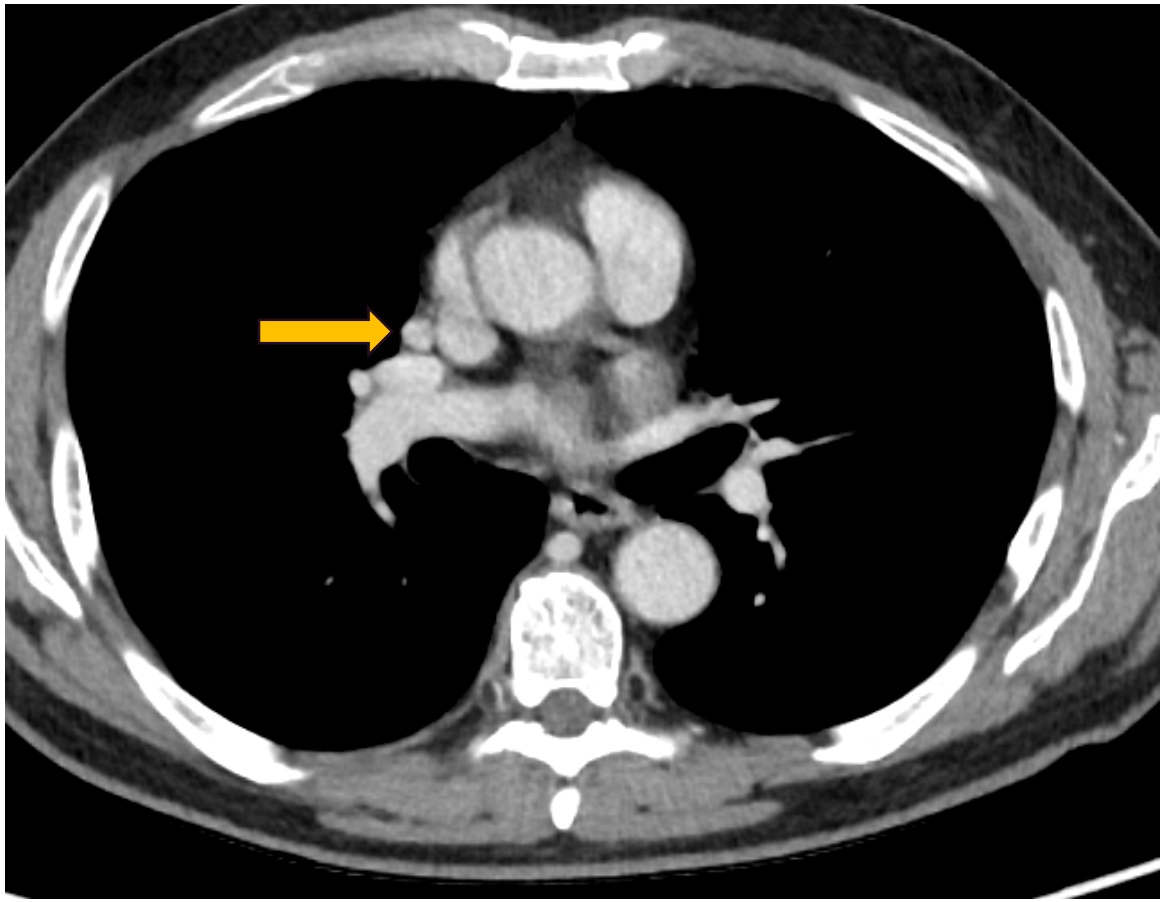




CT-PET=computed tomography-positron emission tomography.

Image provided courtesy of speaker.

Subcentimetre but avid node



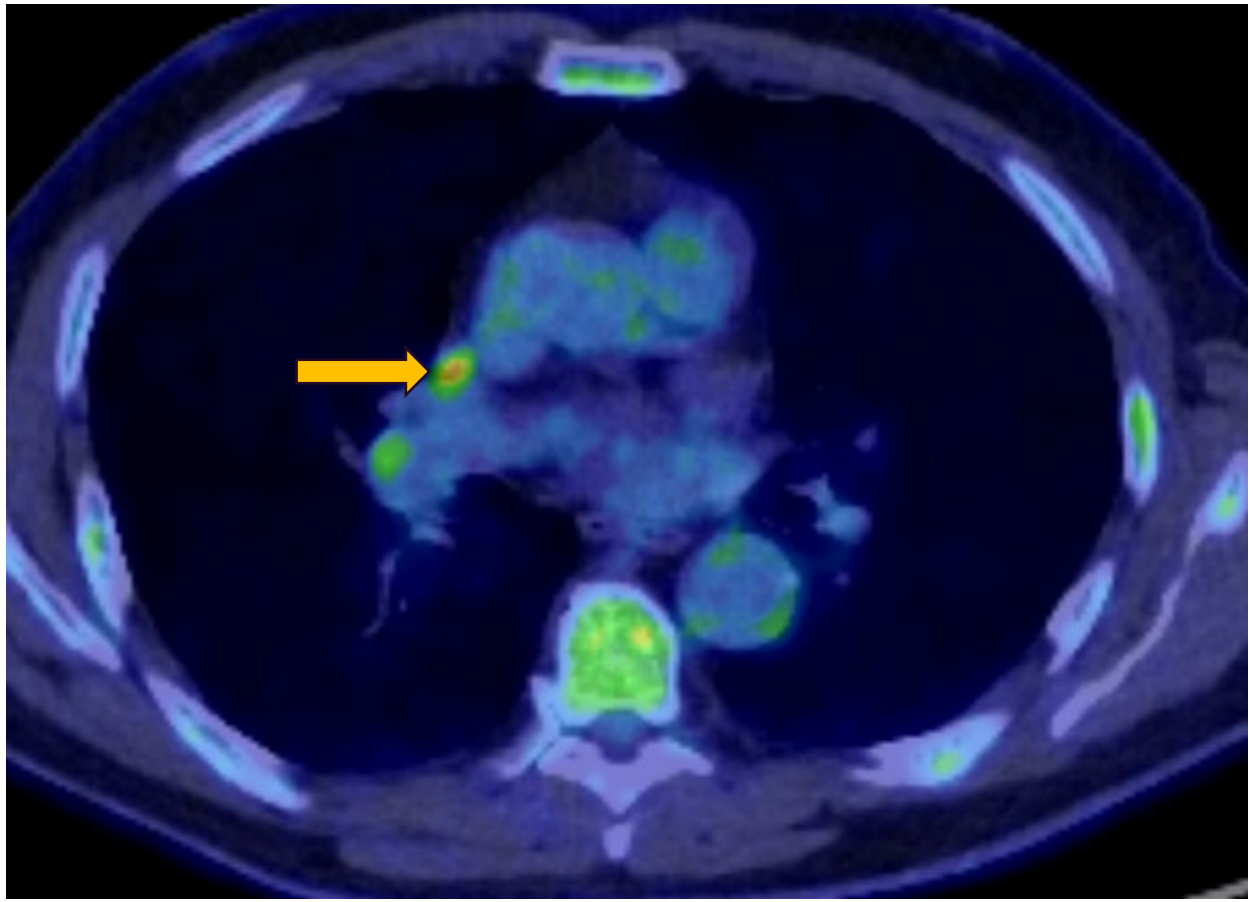


Image provided courtesy of speaker.

Radiological summary – RUL cancer: T4 N2 M0

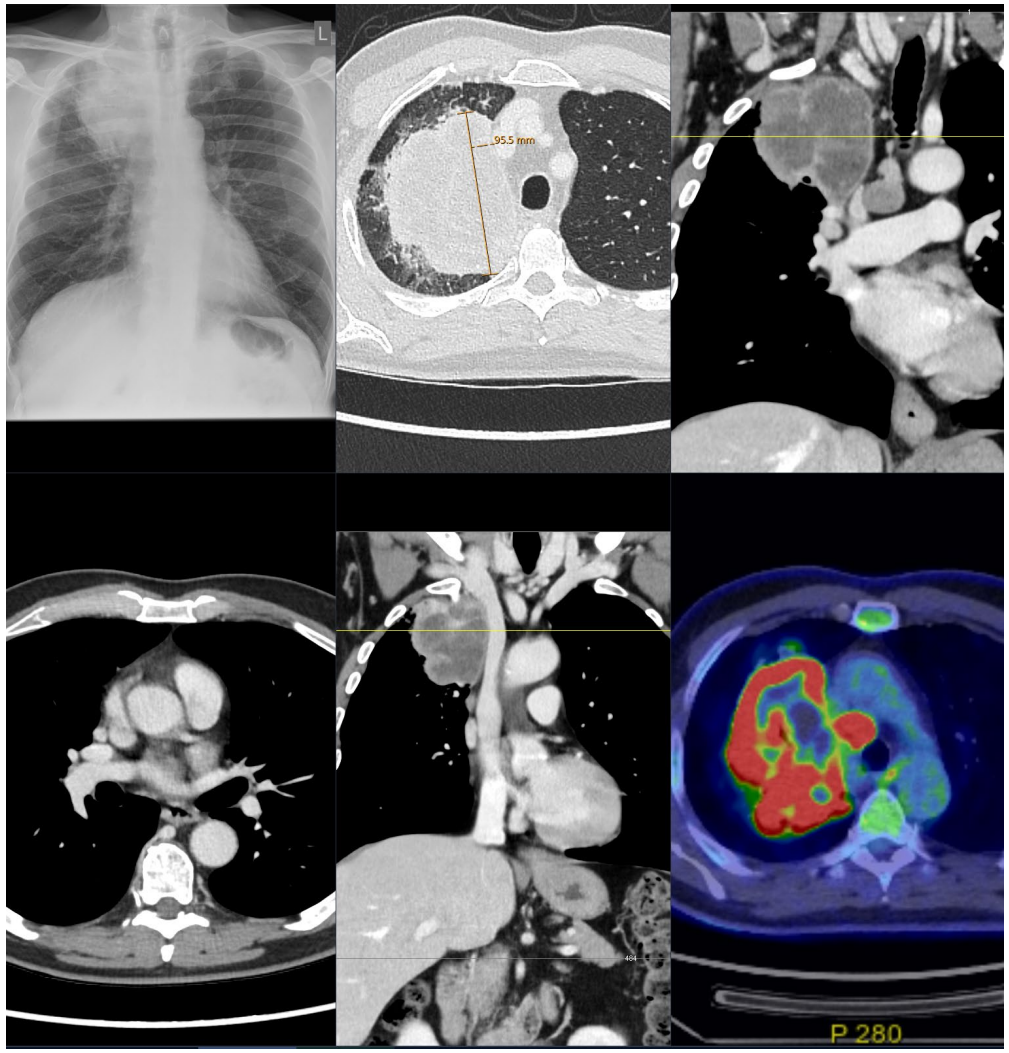


Image provided courtesy of speaker.

Physiology

Measurement	Test	Predicted
FEV1	2.5	91%
FVC	4.00	113%
FEV1/FVC	63%	
TLCO	5.51	74%
KCO	1.12	79%

ECHO:
- Ejection Fraction – 55%
- No valvular abnormality

MRI Brain:
- Normal

ECHO, echocardiogram; FEV1, forced expiratory volume in one second; FVC, forced vital capacity; KCO, transfer coefficient of the lung for carbon monoxide; MRI, magnetic resonance imaging; TLCO, transfer factor of the lung for carbon monoxide.

Data provided courtesy of speaker.

Pathology results

Staging EBUS Results	
Station 11L	No malignant cells
Station 10L	No malignant cells
Station 4L	No malignant cells
Station 7	No malignant cells
Station 4R	Adenocarcinoma – lung primary
Station 10 R	Adenocarcinoma – lung primary
Station 11R	Adenocarcinoma – lung primary

MDT – T4N2M0 Adenocarcinoma – PD-L1/NGS sent

EBUS, endobronchial ultrasound; MDT, multidisciplinary team; NGS, next-generation sequencing; PDL1, programmed death-ligand 1.

Data provided courtesy of speaker.

MDT discussion – day 24

Confirmed

- T4N2M0 Adenocarcinoma
- PD-L1 80%
- NGS – *KRAS* G12C positive (*EGFR/ALK* negative)

- Performance status 1
- Prehab – doing well – stable/improving, 6MWT 650m

6MWT, six-minute walk test; ALK, anaplastic lymphoma kinase; EGFR, epidermal growth factor receptor; MDT, multidisciplinary team; NGS, next-generation sequencing; PDL-1, programmed death-ligand 1.

Speaker's clinical expertise.

What treatment would you offer next?

THINK AGAIN

Surgery?

Radical radiotherapy?

Chemo-radiotherapy?

Neo-adjuvant chemo-immunotherapy?

Targeted therapies?

MDT, multidisciplinary team.

Speaker's clinical expertise.

What would you do next?

1. Surgery
2. Radical radiotherapy
3. Chemo-radiotherapy
4. **Neo-adjuvant chemo-immunotherapy**
5. Targeted therapies

Speaker's clinical expertise.

MDT Discussion

Case study 3

Dr Anna Sharman and Dr David Woolf

Based on a real patient case studiy, with certain features adapted.

THINK AGAIN LUNG SUMMIT

67-year-old female

- **MEDSURV patient**
- **Left VATS upper lobectomy T1c N1 adenosquamous 2022**
- ***EGFR* negative – seen by medical oncology but patient opted against chemotherapy**
- **Referral to MDT for abnormal RUL**

EGFR, epidermal growth factor receptor; MDT, multidisciplinary team; MEDSURV, medical survivorship programme; RUL, right upper lobe; VATS, video-assisted thoracoscopic surgery.

Speaker's clinical expertise.

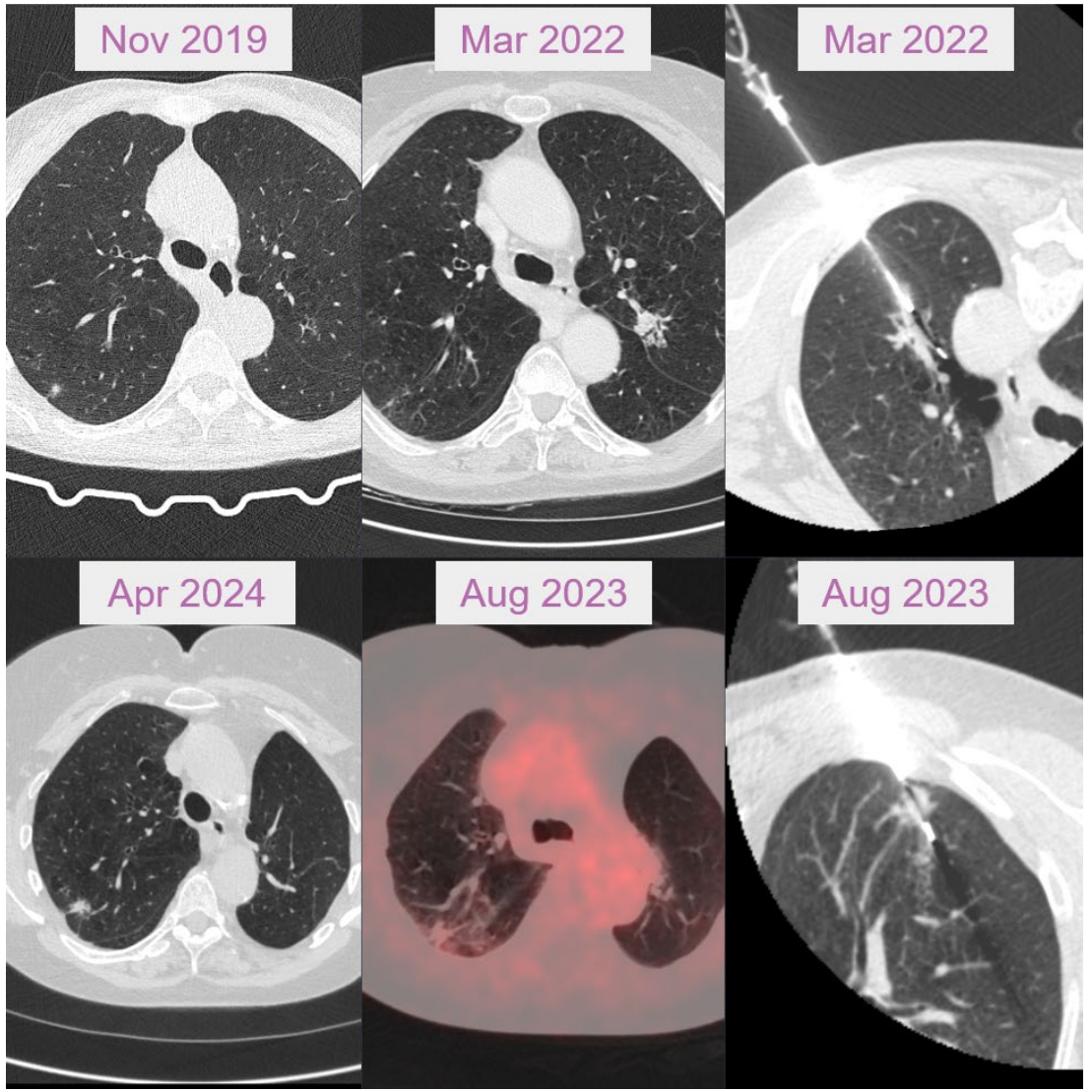
Past medical history

- **Ex-smoker**
- **COPD**
- **Temporal arteritis**
- **Thoracic aortic aneurysm under surveillance (4.2cm)**
- **PS 1**

COPD, chronic obstructive pulmonary disease; PS, performance status.

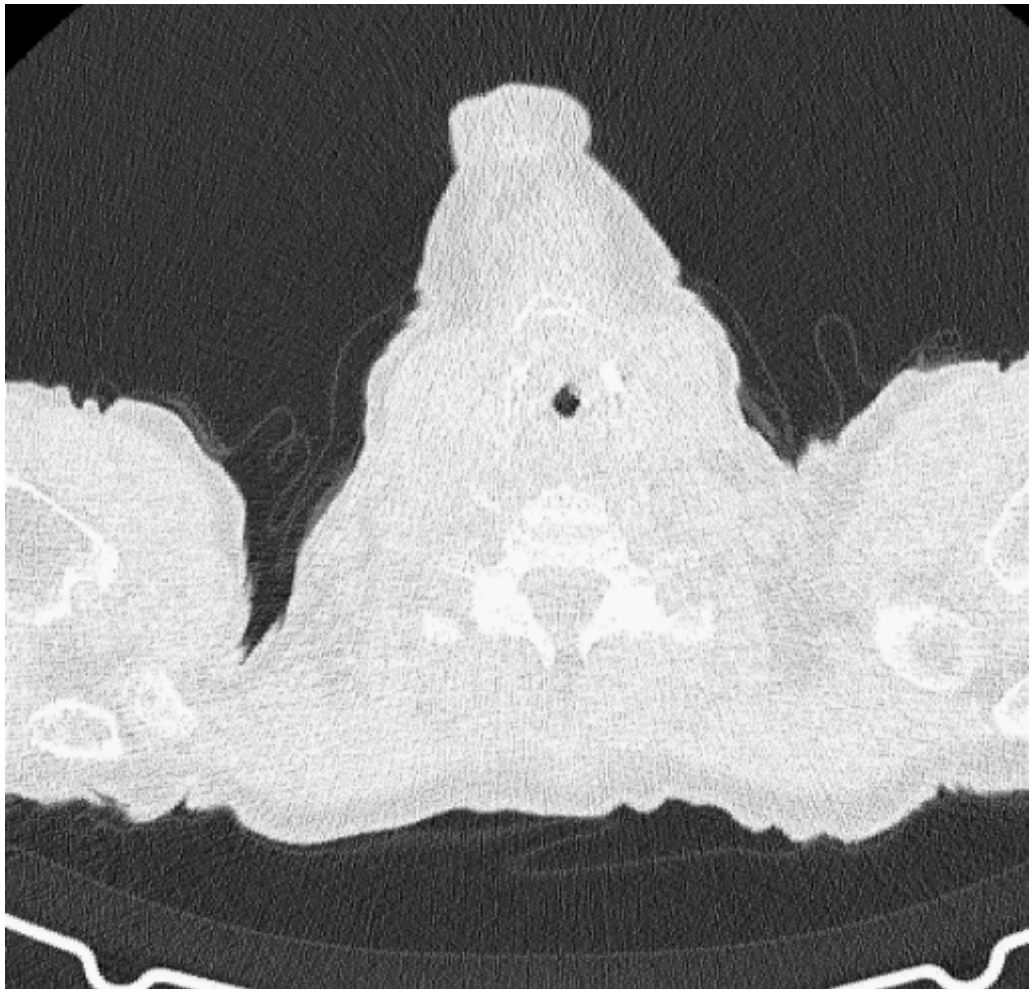
Speaker's clinical expertise.

Radiological summary from 2019–2024



Images provided courtesy of speaker.

Back to the beginning – screening CT Nov 2019

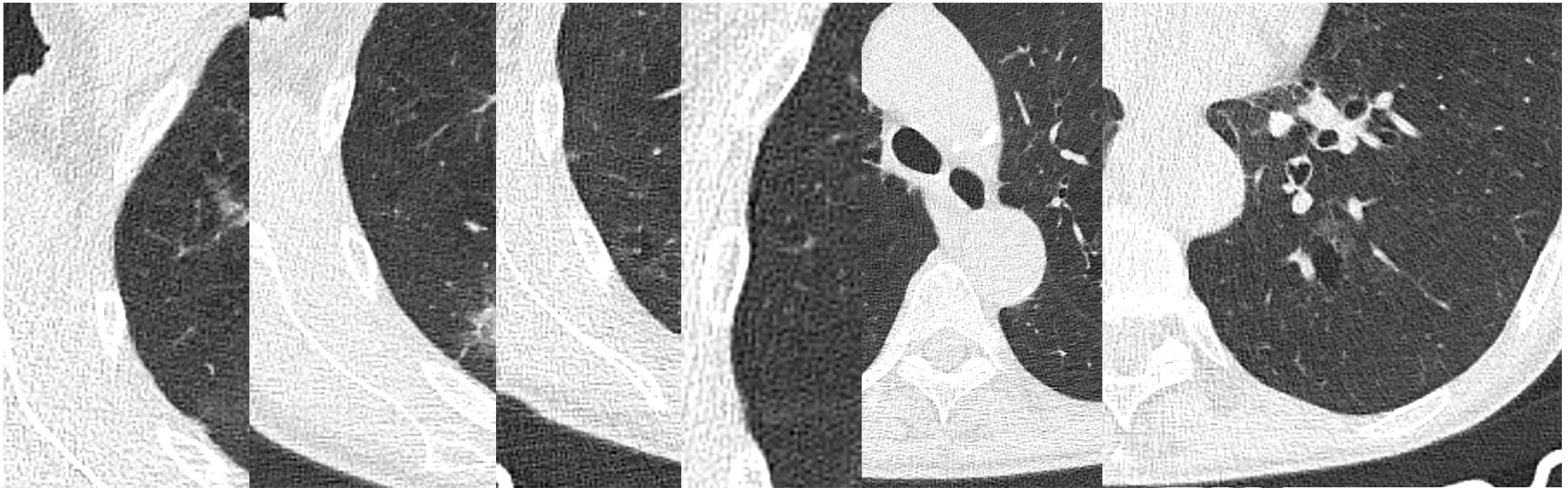


CT, computed tomography.

Video provided courtesy of speaker.

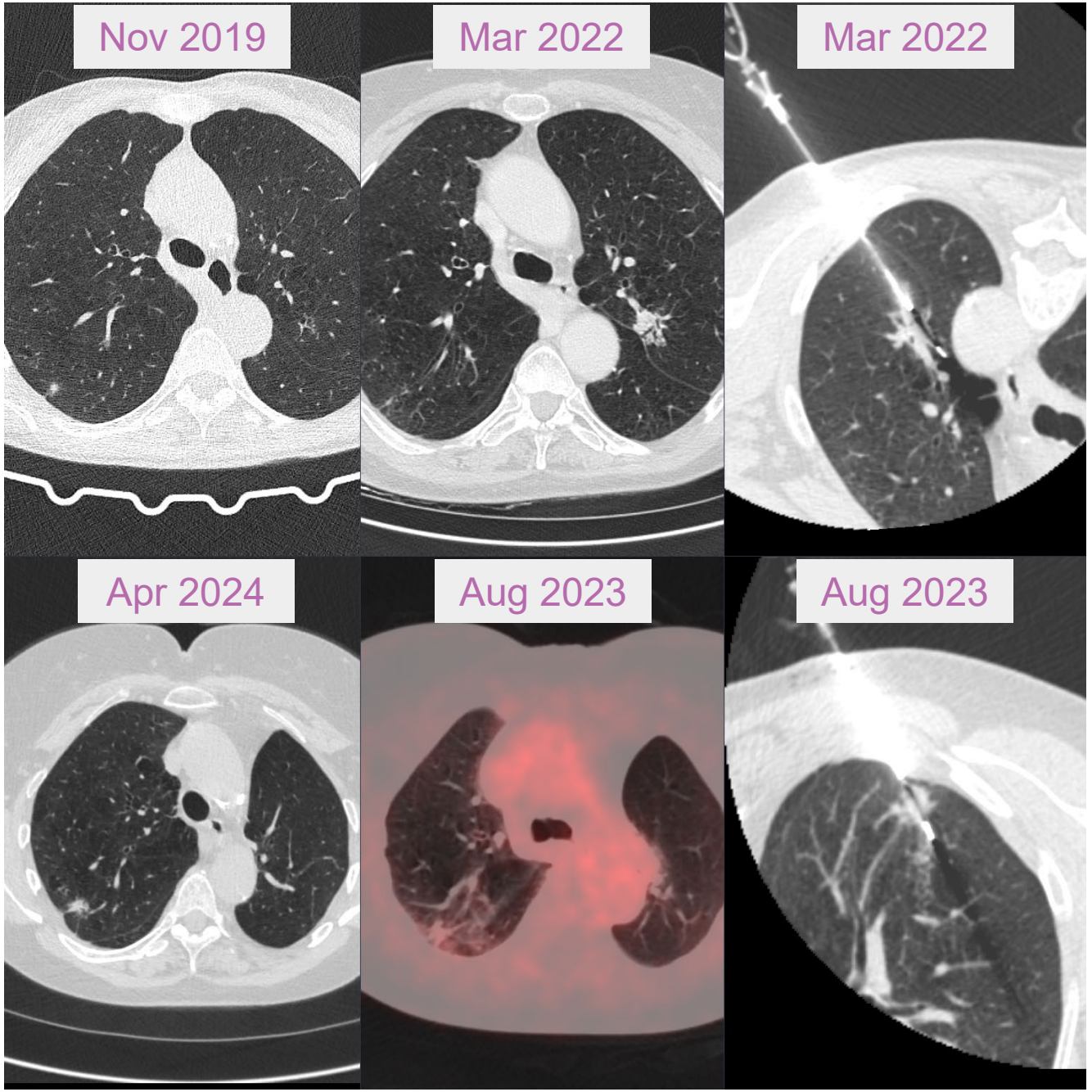
2019 – multiple abnormal areas

RUL RML LUL LLL



LLL, left lower lobe; LUL, left upper lobe; RML, right middle lobe; RUL, right upper lobe.

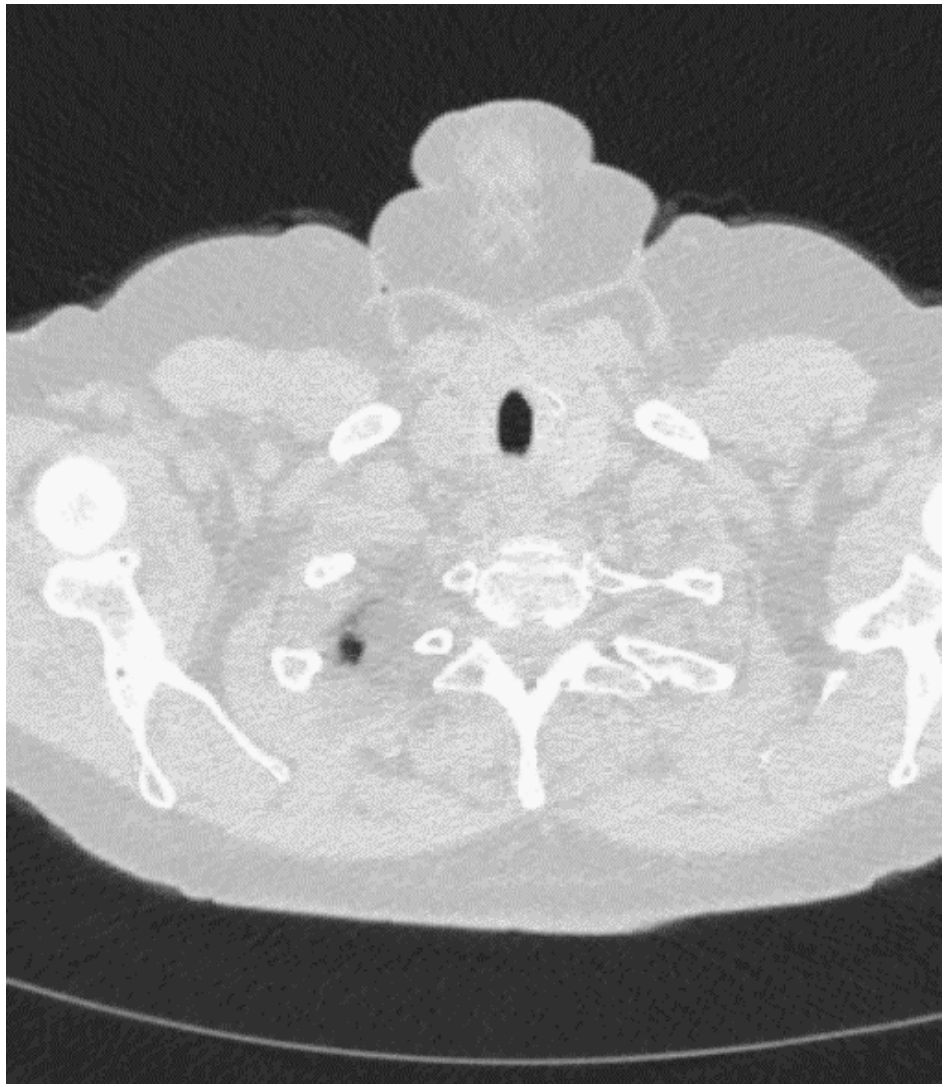
Images provided courtesy of speaker.



Images provided courtesy of speaker.

CT scan

- LUL lobectomy
- Multiple nodules in RUL progressing from 2019
- Enlarging RML cyst



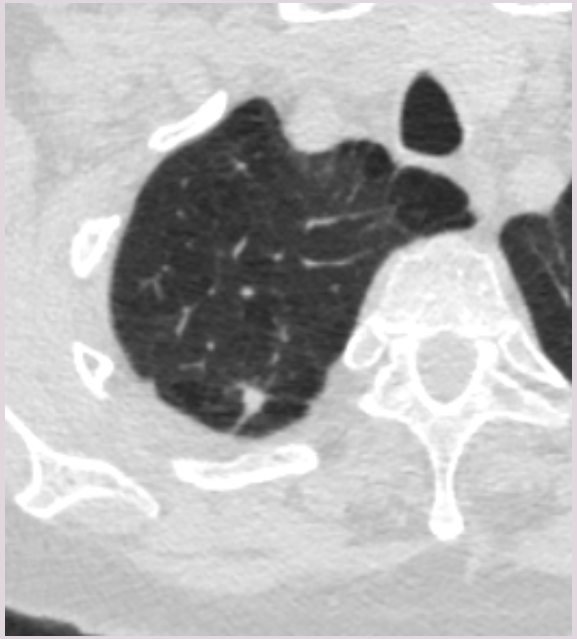
LUL, left upper lobe; RML, right middle lobe; RUL, right upper lobe.

Video provided courtesy of speaker.

PET done

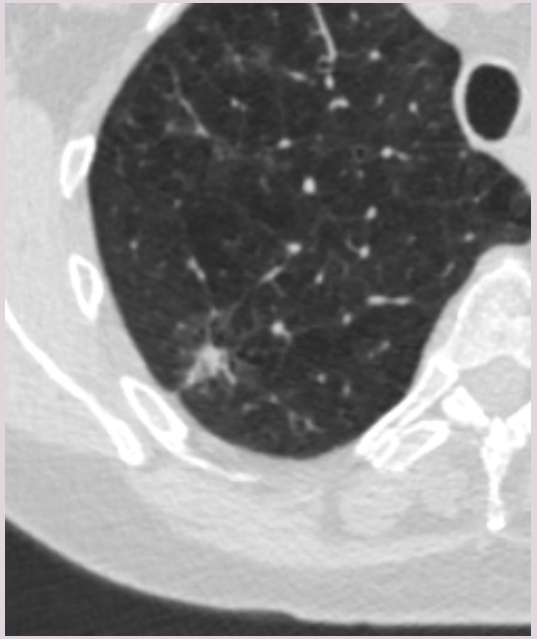
SUV max 2.6, Right apical 0.6 x 0.6 cm nodule (3.51). This lesion has slightly increased since 2022, was 0.5 x 0.4 cm and barely perceivable in 2019.

If NSCLC; radiological stage T1a N0



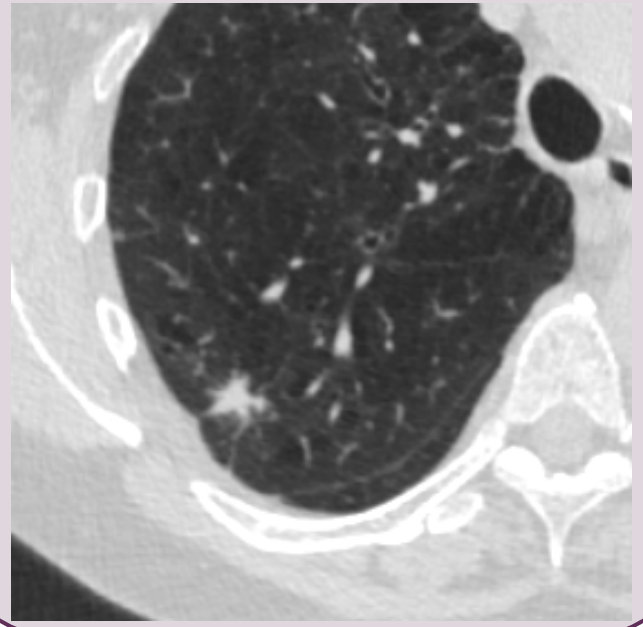
SUV max 1.5, RUL 1 x 0.7 cm nodule (3.59). Stable from 2019.

If NSCLC; radiological stage T1a N0



SUV max 2.9, RUL 1.1 x 0.8 cm nodule (3.64). Increased from 0.5 cm in Nov 2019 - this has been biopsied.

If NSCLC radiological stage T1b N0



NSCLC, non-small cell lung cancer; SUV max, maximum standardised uptake value.

Images and data provided courtesy of speaker.

- Right middle lobe 3cm cyst
- No measurable thickening
- **No focal increased metabolic activity**

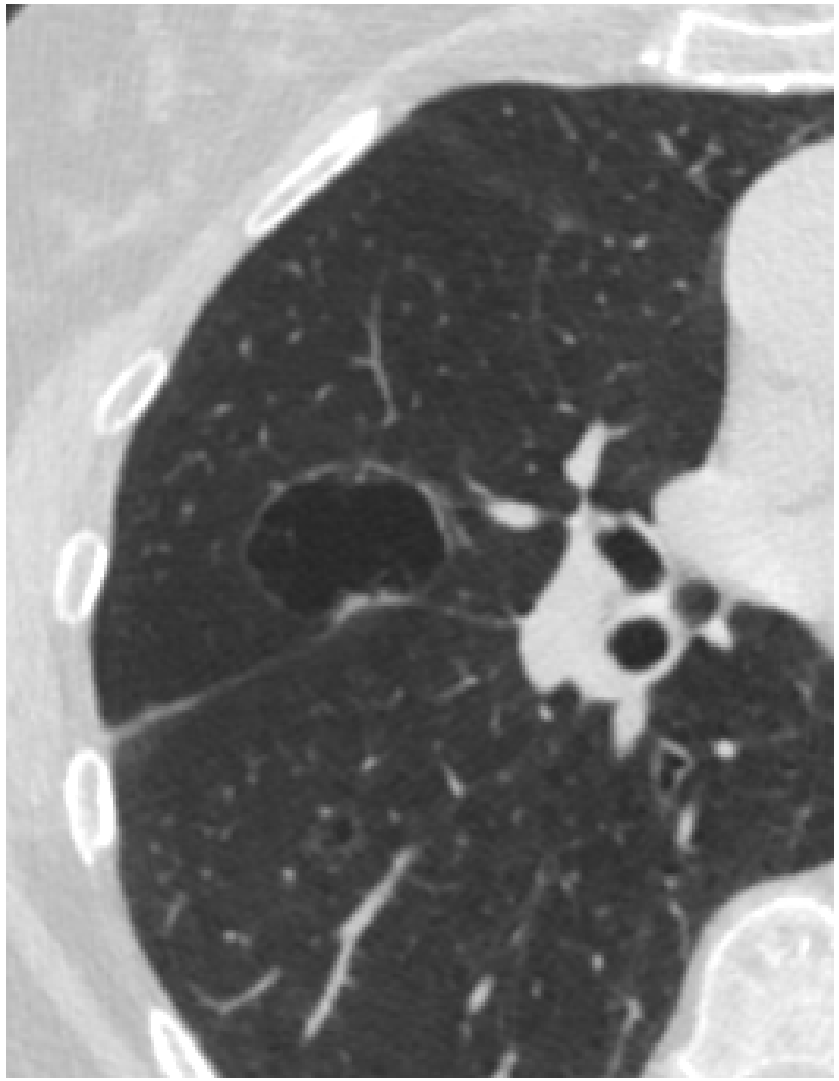


Image provided courtesy of speaker.

Radiology conclusion

- **Complex imaging with multifocal abnormalities assumed to represent synchronous primary lung adenocarcinomas**
- **The dominant lesion is the most caudal nodule within the right upper lobe posteriorly which has been targeted for biopsy**
  - T1b (m) N0
- **The middle lobe cyst will require ongoing surveillance**

Speaker's clinical expertise.

Pathology from RUL nodule

- **Adenocarcinoma**

RUL, right upper lobe.

Speaker's clinical expertise.

Physiology

- **Echo: mild LVH, EF > 55%, mild AR/MR, dilated aortic root and AA, dilated LA**
- **FEV1 2.29L (105% predicted)**
- **DLCO % predicted: 46%**

AA, ascending aorta; AR, aortic regurgitation; DLCO, diffusing capacity for carbon monoxide; Echo, echocardiogram; FEV1, forced expiratory volume in 1 second; LA, left atrium; LVH, left ventricular hypertrophy; MR, mitral regurgitation.

Speaker's clinical expertise.

What treatment would you offer next?

THINK AGAIN

CT surveillance

Surgery with RUL lobectomy

Wedge resection RUL of biopsied lesion

Chemotherapy

SABR

CT, computerised tomography; RUL, right upper lobe; SABR, stereotactic ablative radiotherapy.

What would you do next?

THINK AGAIN

1. CT surveillance
2. **Surgery with RUL lobectomy**
3. Wedge resection RUL of biopsied lesion
4. Chemotherapy
5. SABR

CT, computerised tomography; RUL, right upper lobe; SABR, stereotactic ablative radiotherapy.

Speaker's clinical expertise.