MDT konferencen

Hvordan sikrer vi
kvalitet og konsensus?

Baggrund for bekymring

- 60 konstruerede cases med tilhørende billediagnostik
- Stadier og histologi m.m. som gennemsnitlige danske lungekræft-patienter, dog med lidt flere med lokal-avanceret sygdom.
- Vurderet ved de 4 MDT-konferencer ved de 4 thorax-kirurgiske afdelinger.
- Gennemgået ifm ordinære MDT-konferencer som var det ordinære patienter mht **stadie, kurabilitet og beh.-tilbud.**

Cases

Table 1 Characteristics of cases	
Number of cases	60
Males/Females	32/28
Mean Age (Max-Min)	70 y (50 – 84)
Tobacco smoking	
Never smoker	0
Former smoker	36
Current smoker	22
Unknown	2
ECOG Performance status	
0	20
1	28
2	9
3	3
Stage	
Stage I	17
Stage II	2
Stage III	13
Stage IV	26
Stage undetermined	2
Histology	
Adenocarcinoma	41
Non-small cell carcinoma, NOS	1
Squamous cell carcinoma	11
Small-cell carcinoma	6
Small-cell carcinoma + Adenocarcinoma	1
PD-L1 expression	
<1%	20
1% - 25%	8
1% - 50%	7
>=50%	19
Not measured	6
EFGR mutations	
exon 19 deletion	4
exon 20 insertion	1
p.Leu858Arg in exon 21	1
ALK translocation	
Positive	1

Eksempel på case story

A 71-year-old man with chronic back pain after surgery 25 years ago and diabetes type 2 treated with metformin.

Initial investigation started 3 years ago when he presented with fatigue and anemia. He had a CT scan, gastroscopy, and colonoscopy performed, all with normal findings except for the discovery of a small, elongated consolidation in the left upper lobe, which has since been followed with control CT scans.

On the latest CT scan, there was progression of the consolidation which led to the current diagnostic work-up.

He is a current smoker with fifteen cigarettes daily and forty packyears.
FEV1 = 2.3 L (81%) ; DLco of 71%.
Regional lung perfusion scan: Left lung 46%.
ECOG PS 0-1

PET with diagnostic CT:

1. A consolidation of 29mm in the apex of the left upper lobe with moderately increased FDG uptake, suspicious for malignancy.
2. No signs on CT or PET of lymph node involvement or distant metastases.
3. The right flexur of the colon has a wall thickening with increased FDG uptake, colonoscopy is suggested.
4. A tumor in the urinary bladder at the right ostium which cannot be assessed further by PET, suggests a cystoscopy.

EBUS: Endobronchial, there is bilaterally as far as can be seen macroscopically normal conditions. EBUS-TBNA with confirmed lymph node from small lymph nodes in lymph node station 4R and 7. No lymph node is found in 4L. No detected malignancy in TBNA.

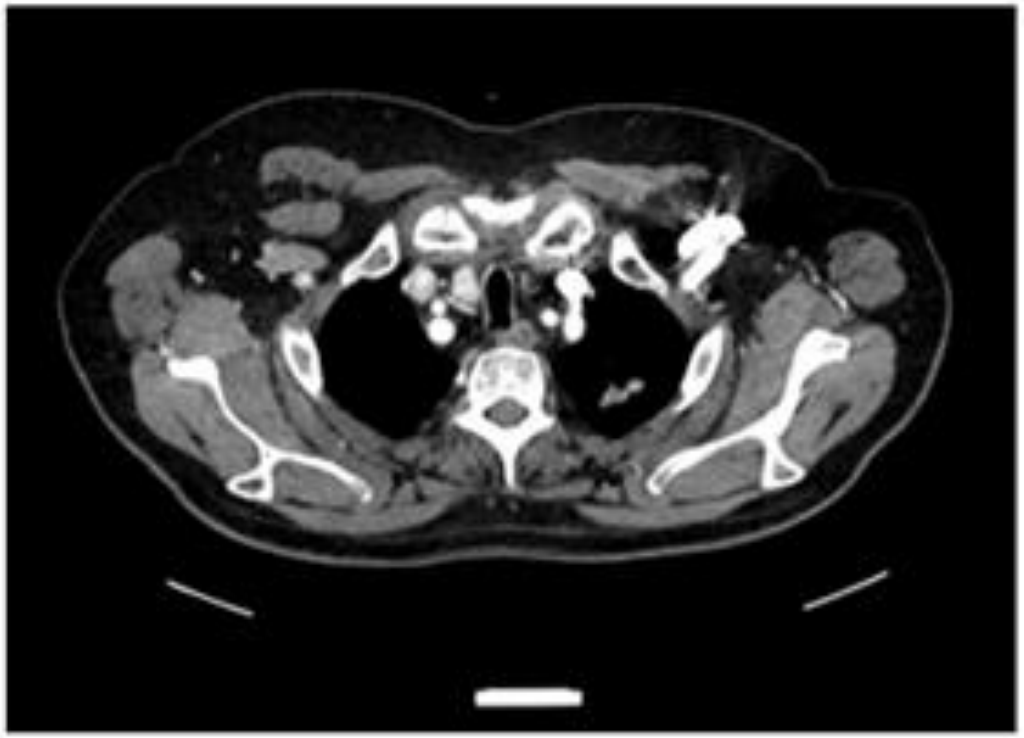
CT-guided needle biopsy from the left upper lobe: Lung adenocarcinoma. PDL1 < 1%, EGFR mutation not detected. ALK or ROS1 translocation not detected.

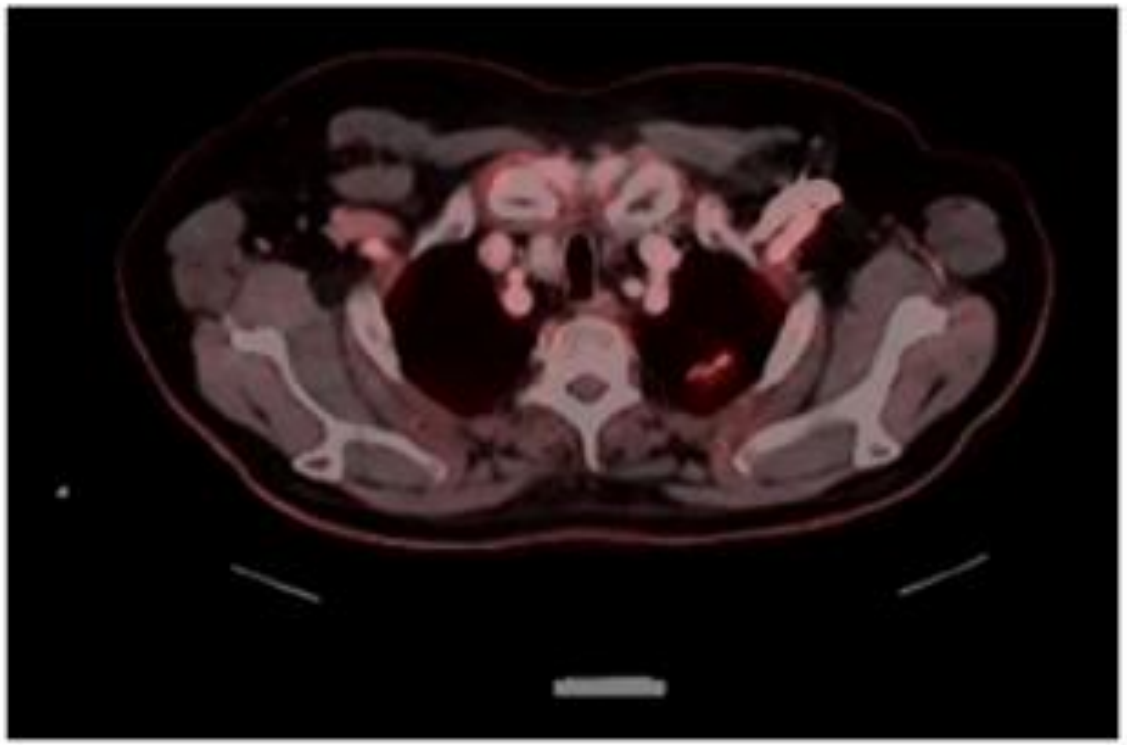
Colonoscopy: Nothing abnormal found.

Cystoscopy with detection of a tumor of 3 cm, which must be further examined.

Fuld billeddiagnostik

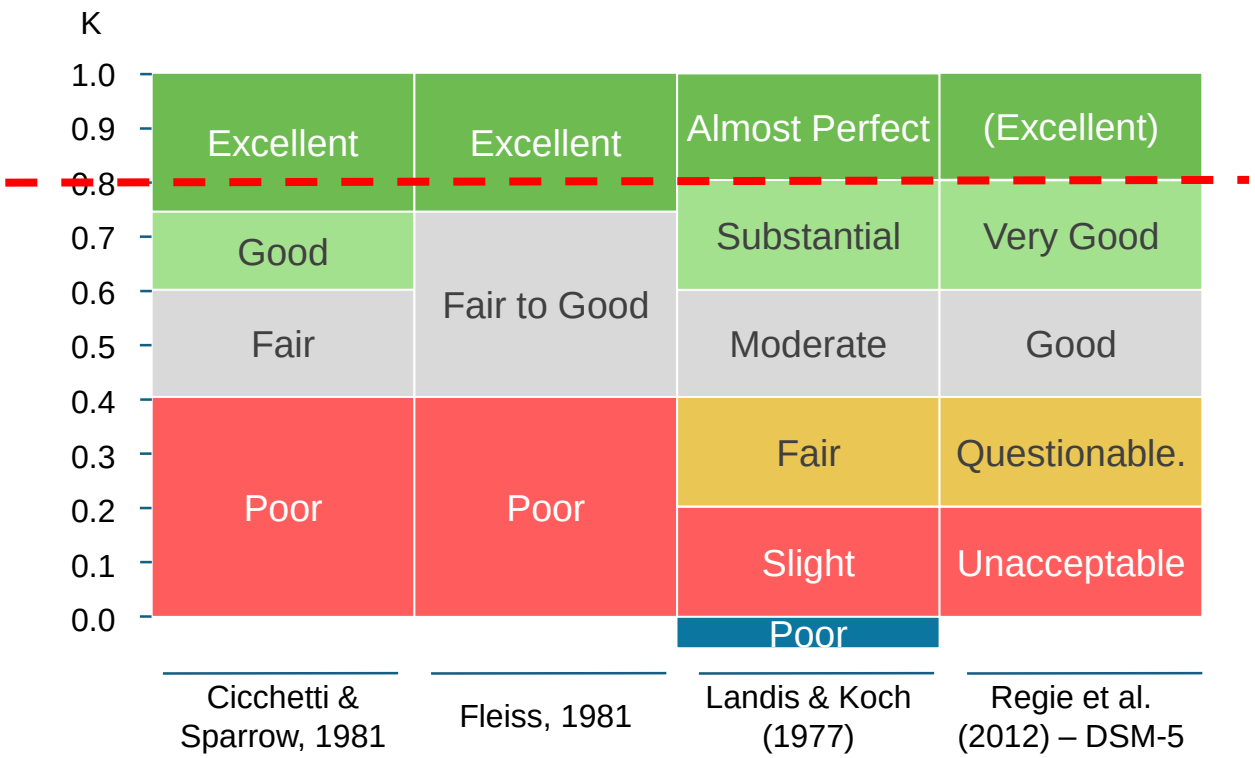
Sample images [At the MDT all images were available]



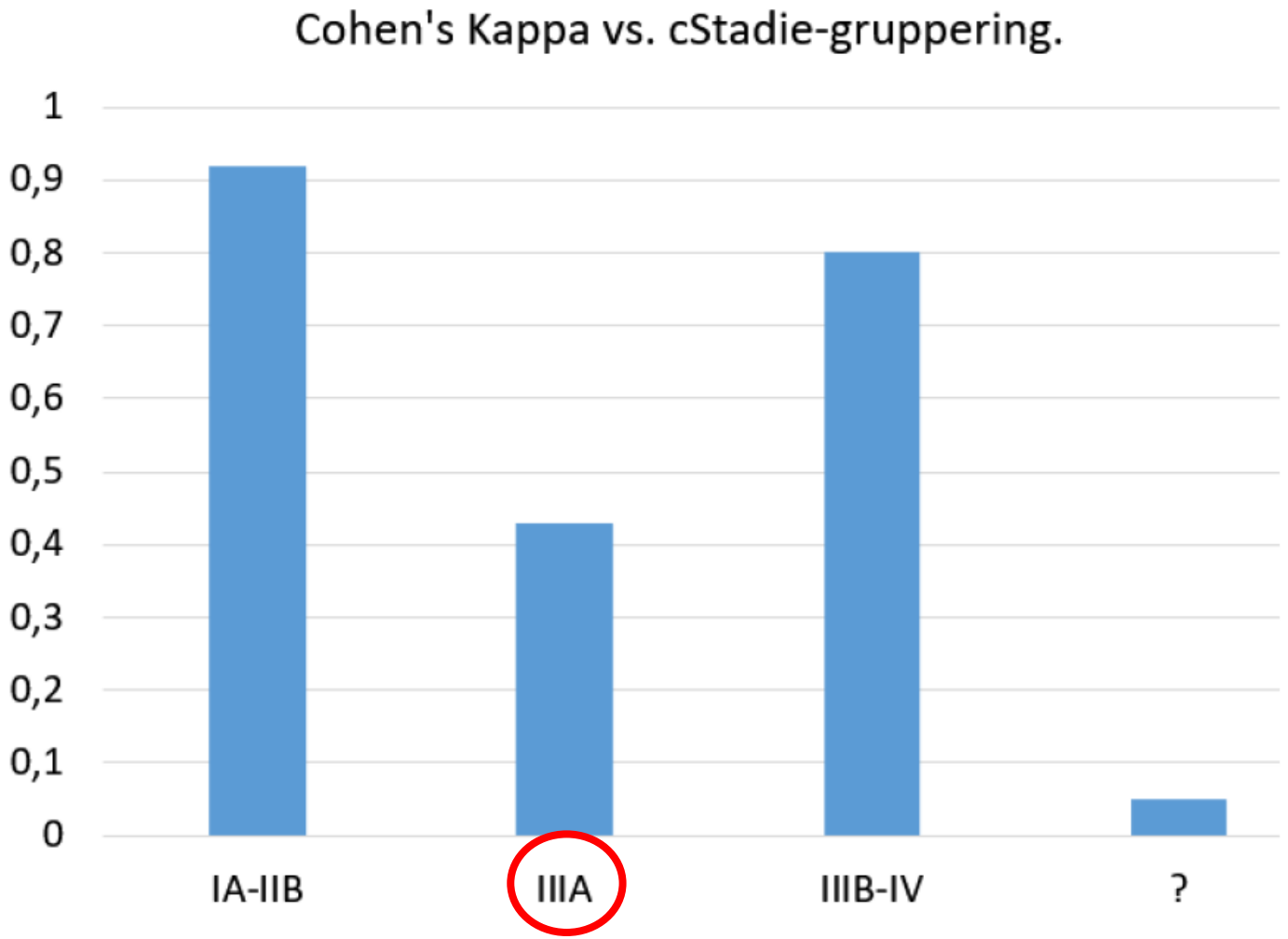


Statistisk vurdering

- Vurderingerne fra de 4 MDT-konferencer blev sammenlignet med **Kappa statistik.**
- En ‘oversættelse’ fra Kappa værdier til grad af enighed / konsensus mellem vuderinger ses i figuren.
- En Kappa **værdi på 0.8 eller højere svarer til 'Excellent’** eller 'Almost Perfect' agreement.



Graden af enighed afhang af stadie-vurderingen

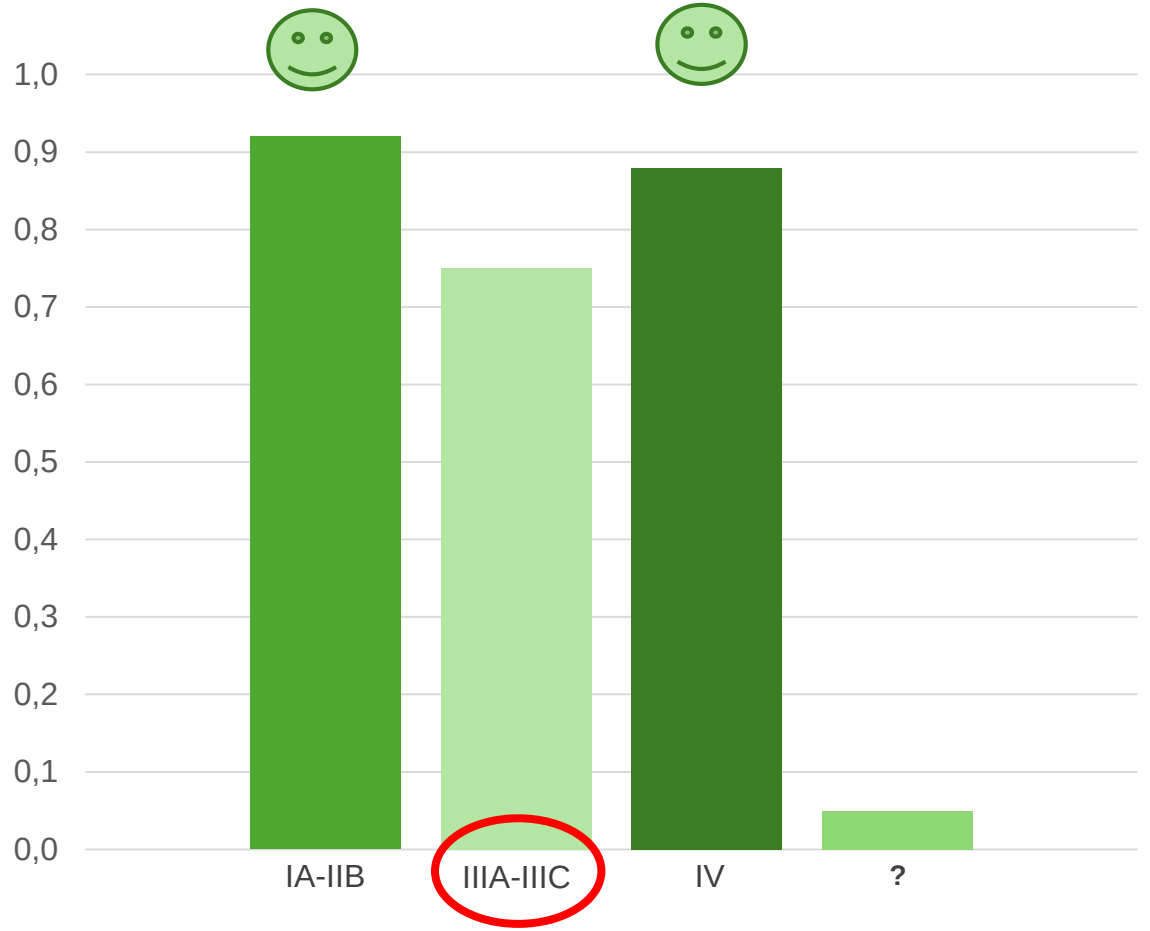


Enighed ift mere *klinisk relevant* stadie-vurderingen

If stage assessments were grouped into

- **Localized - cStage IA-IIB**
  surgically (or by other means) curable
- **Loco-regional - cStage IIIA-IIIC**
  potentially curable by surgery or chemo-radiation
- **Metastatic - cStage IV**
  palliative
- **cStage undetermined**

Overall **Kappa-value of 0.82** (95% CI: 0.72 -0.92).



Enighed om stadie => Enighed om kurabilitet

All MDTs agree on **Stage Group**	All MDTs agree on **Curability**		
	No	Yes	Total
No	9	2	**11**
Yes	7	42	**49**
Total	**16**	**44**	**60**

11 cases
Without full agreement on stage group:

Curative intent	Kappa (95% CI)
No	0.45
Yes	0.19
?	0.10
Kappa combined	0.28 (0.06 – 0.49)

49 cases
Full agreement on stage group:

Curative intent	Kappa (95% CI)
No	0.86
Yes	0.86
?	-0.01
Kappa combined	0.84 (0.73 – 0.95)

Stadier i grå-zonen af kurabilitet

Deemed to be **Curable**

N	MDT-site			
cStage	1	2	3	4
IA	12	9	5	9
IB	4	5	12	5
IIA	-	-	-	1
IIB	4	3	2	3
IIIA	1	4	5	2
IIIB	4	2	1	4
IIIC	-	-	-	1
IV	-	-	-	-
?	-	1	-	1
Total	**25**	**24**	**25**	**26**

Deemed **Incurable**

N	MDT-site			
cStage	1	2	3	4
IA	-	-	-	-
IB	-	-	-	-
IIA	-	-	-	-
IIB	-	-	-	1
IIIA	2	2	2	4
IIIB	2	2	3	1
IIIC	-	2	2	-
IV	30	27	26	26
?	-	-	1	-
Total	**34**	**33**	**34**	**32**

Fordelingen af de “vanskelige cases” uden fuld enighed om kurabilitet ved alle MDT’er

All MDTs agree on Stage Group	All MDTs agree on Curability		
	No	Yes	Total
No	9	2	**11**
Yes	7	42	**49**
Total	**16**	**44**	**60**

Not *full agreement* on curability

N	MDT-site			
cStage	1	2	3	4
IA	2	1	1	1
IB	1	1	1	-
IIA	-	-	-	-
IIB	1	-	1	3
IIIA	2	3	6	4
IIIB	4	3	2	3
IIIC	-	2	1	1
IV	5	4	2	2
?	1	2	2	2
Total	**16**	**16**	**16**	**16**

≈ 50%

Løsninger mod større konsensus

1. Mødes regelmæssigt og sammen gennemgå ‘grå-zone’ patienter – f.eks. som **National video-MDT-konference**.
   a) Hyppigt / ugentligt for at diskutere aktuelle patienter
   b) Sjældnere (4 x årligt?) for at diskutere udvalgte tidligere patienter

2. Træne enighed på en on-line platform med patient-cases – som f.eks. AstraZeneca’s ***ROSETTA – LUNG*** platform

ROSETTA - LUNG

AstraZeneca ROSETTA-LUNG

MultidisciplinaRy Oncology Strategies for Enhanced Team-based Treatment Approaches

Review cases

MDT consensus

ROSETTA-LUNG

Patient overview

Age: 64 years old

Sex: Female

Status

Smoking: Heavy smoker (100 pack years)

ECOG PS: 1 (very chronically affected)

Recent clinical presentation

- Referred by stomach / gastrointestinal surgeons, who recently detected cardiac adenocarcinoma (cardiac cancer is operable if there is no metastasis in the lungs)

Clinical history

No notes available

Lung function results

- **FEV1:** 2.1 L (91%)
- **DLCO:** 81%

CT or MRI results

No notes available

View scans

FDG PET/CT results

- Thickening of the wall of the distal oesophagus and the cardia of the stomach, with greatly increased FDG uptake
- Adenocarcinoma verified by biopsy; a few small and several closely spaced, enlarged lymph nodes at the lesser curvature of the stomach, with moderate to markedly increased FDG uptake
- A small focal lesion in the left colonic flexure, with moderate FDG uptake
- Enlarged left adrenal gland; FDG uptake not pathologically increased
- Small, low-attenuating changes in the liver; FDG uptake not pathologically increased
- Ground-glass changes in both lungs (up to 2.5 cm); FDG uptake not pathologically increased

View scans

Pathology results

Sampling method #1: CT-GNB (diagnostic material)
Structure/tissue sampled: right lung
Finding: adenocarcinoma; ground-glass opacities in left lower lobe (also lung adenocarcinoma)
Biomarker results:

- PD-L1 <1%
- EGFR mutation not detected
- ALK or ROS1 translocation not detected

Other notes

Questions

What clinical staging (IASLC 9th Edition of the TNM Classification for Lung Cancer) would you give this patient?

Tumour (T) Tumour

Node (N) Node

Metastasis (M) Metastasis

Previous

Next

Patient overview

Age:
64 years old

Sex:
Female

Status

Smoking:
Heavy smoker (100 pack years)

ECOG PS:
1 (very chronically affected)

Recent clinical presentation

- Referred by stomach / gastrointestinal surgeons, who recently detected cardiac adenocarcinoma (cardiac cancer is operable if there is no metastasis in the lungs)

Clinical history

No notes available

Lung function results

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ROSETTA-LUNG

Abbreviations | Torben Riis Rasmussen

Patient overview

Age: 64 years old

Sex: Female

Status

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ECOG PS: 1 (very chronically affected)

Recent clinical presentation

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Lung function results

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Other notes

Questions

What clinical staging (IASLC 9th Edition of the TNM Classification for Lung Cancer) would you give this patient?

Tumour (T) | **Node (N)** | **Metastasis (M)**

Tumour | Node | Metastasis

Previous | Next

Case 3 - CT (thorax and abdomen; coronal)

Available scans

Case 3 - CT (thorax and abdomen; coronal)

CT or MRI results

No notes available

Scroll up and down to navigate back and forth through the scan.

Available scans

Case 3 - CT (thorax and abdomen; coronal)

- Case 3 - CT (thorax and abdomen; coronal) ✓
- Case 3 - CT (thorax and abdomen; sagittal)
- Case 3 - CT (whole body; axial)
- Case 3 - MRI (brain; axial)
- Case 3 - MRI (brain; coronal)
- Case 3 - MRI (brain; sagittal)

th through the scan.

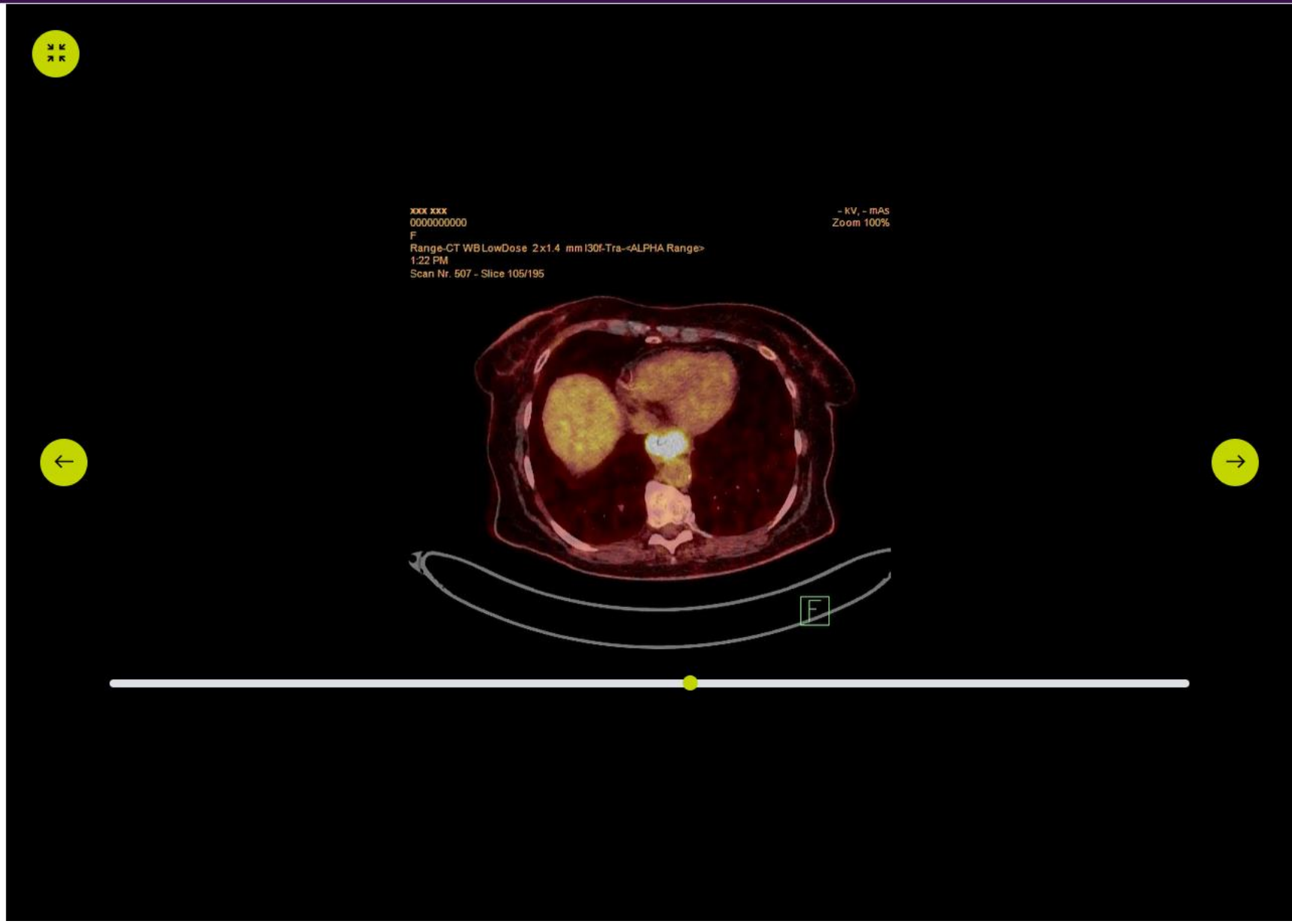
Available scans

Case 3 - PET-CT-Fusion Recon (whole body; axial)

FDG PET/CT results

- Thickening of the wall of the distal oesophagus and the cardia of the stomach, with greatly increased FDG uptake
- Adenocarcinoma verified by biopsy; a few small and several closely spaced, enlarged lymph nodes at the lesser curvature of the stomach, with moderate to markedly increased FDG uptake
- A small focal lesion in the left colonic flexure, with moderate FDG uptake
- Enlarged left adrenal gland; FDG uptake not pathologically increased
- Small, low-attenuating changes in the liver; FDG uptake not pathologically increased
- Ground-glass changes in both lungs (up to 2.5 cm); FDG uptake not pathologically increased

Scroll up and down to navigate back and forth through the scan.



Available scans

Case 3 - PET-CT-Fusion Recon (whole body; axial)

Case 3 - FDG PET (whole body; axial)

Case 3 - FDG PET (whole body; 360 view)

Case 3 - PET-CT-Fusion Recon (whole body; axial) ✓

Case 3 - PET-CT-Fusion Recon (whole body; coronal)

Pathology results

Sampling method #1: CT-GNB (diagnostic material)
Structure/tissue sampled: right lung
Finding: adenocarcinoma; ground-glass opacities in left lower lobe (also lung adenocarcinoma)
Biomarker results:

- PD-L1 <1%
- EGFR mutation not detected
- ALK or ROS1 translocation not detected

Other notes

Questions

TNM-9

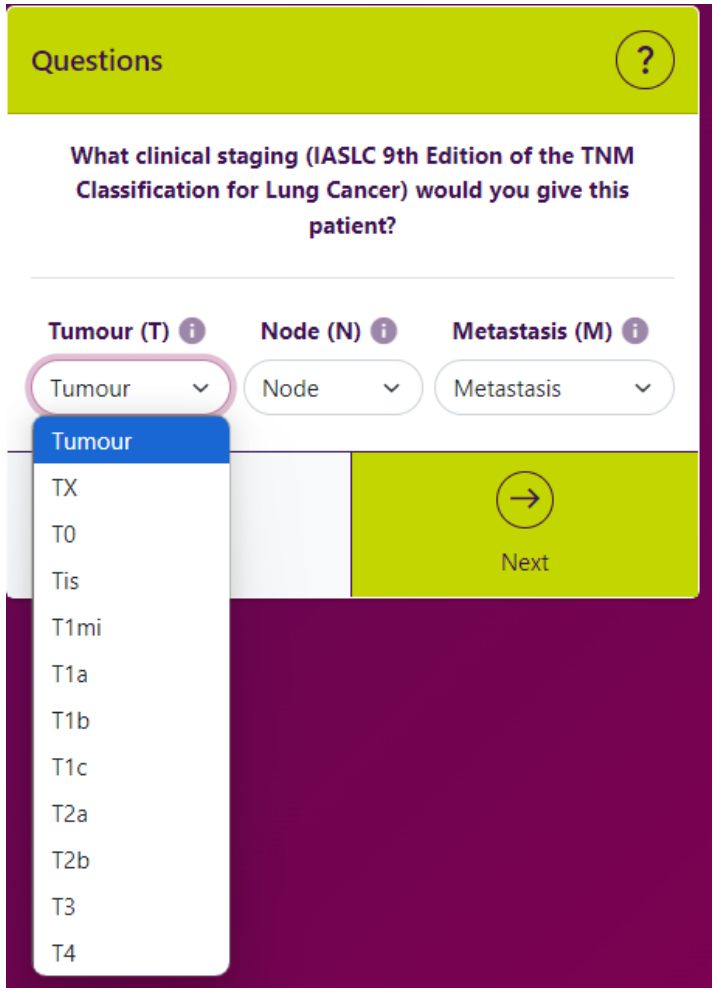
What clinical staging (IASLC 9th Edition of the TNM Classification for Lung Cancer) would you give this patient?

Tumour (T)	Node (N)	Metastasis (M)
Tumour	Node	Metastasis

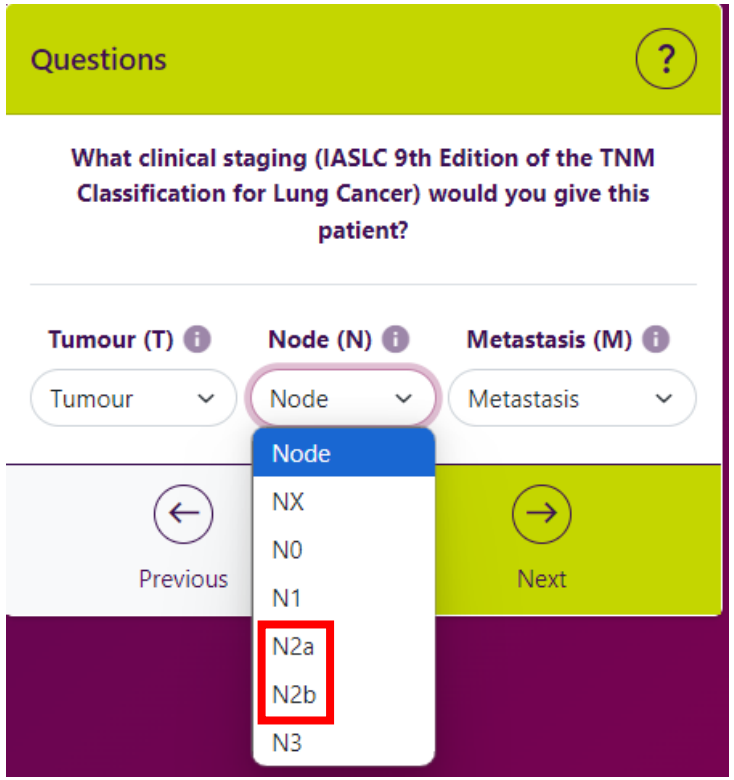
Previous

Next

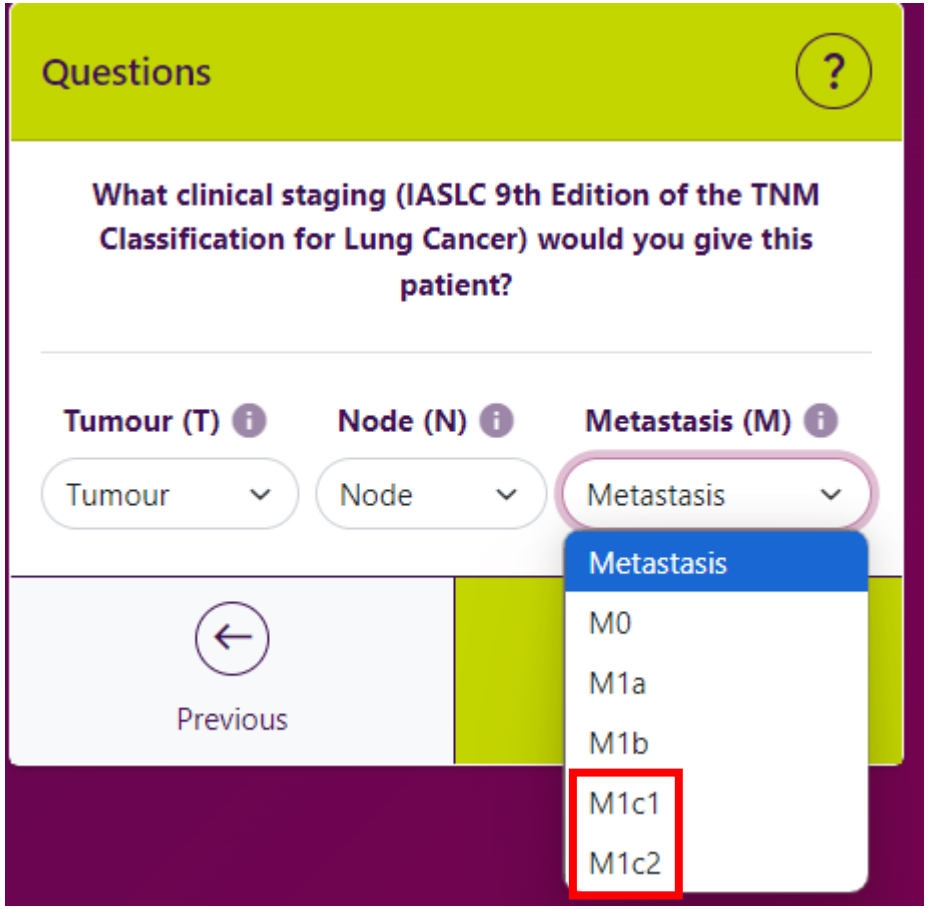
T-kategori



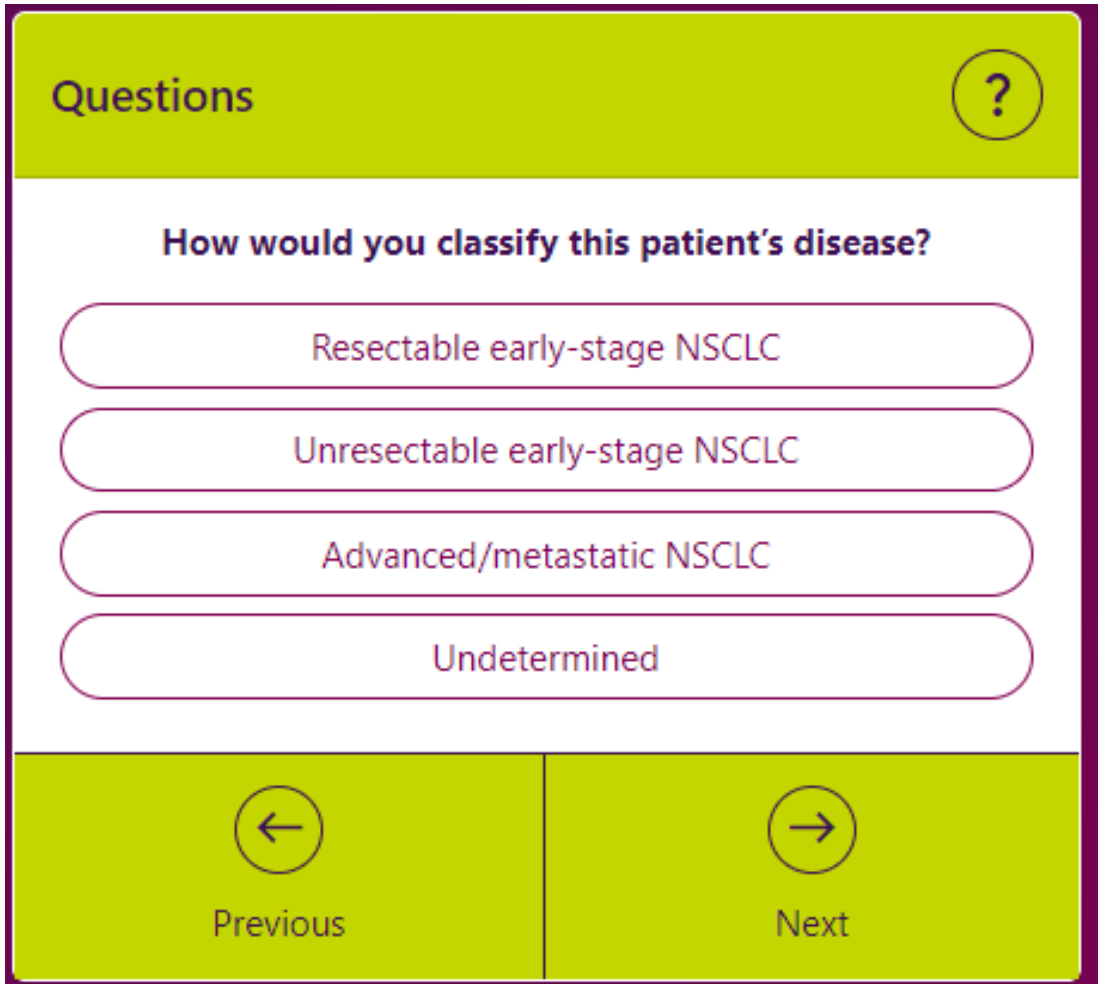
N-kategori



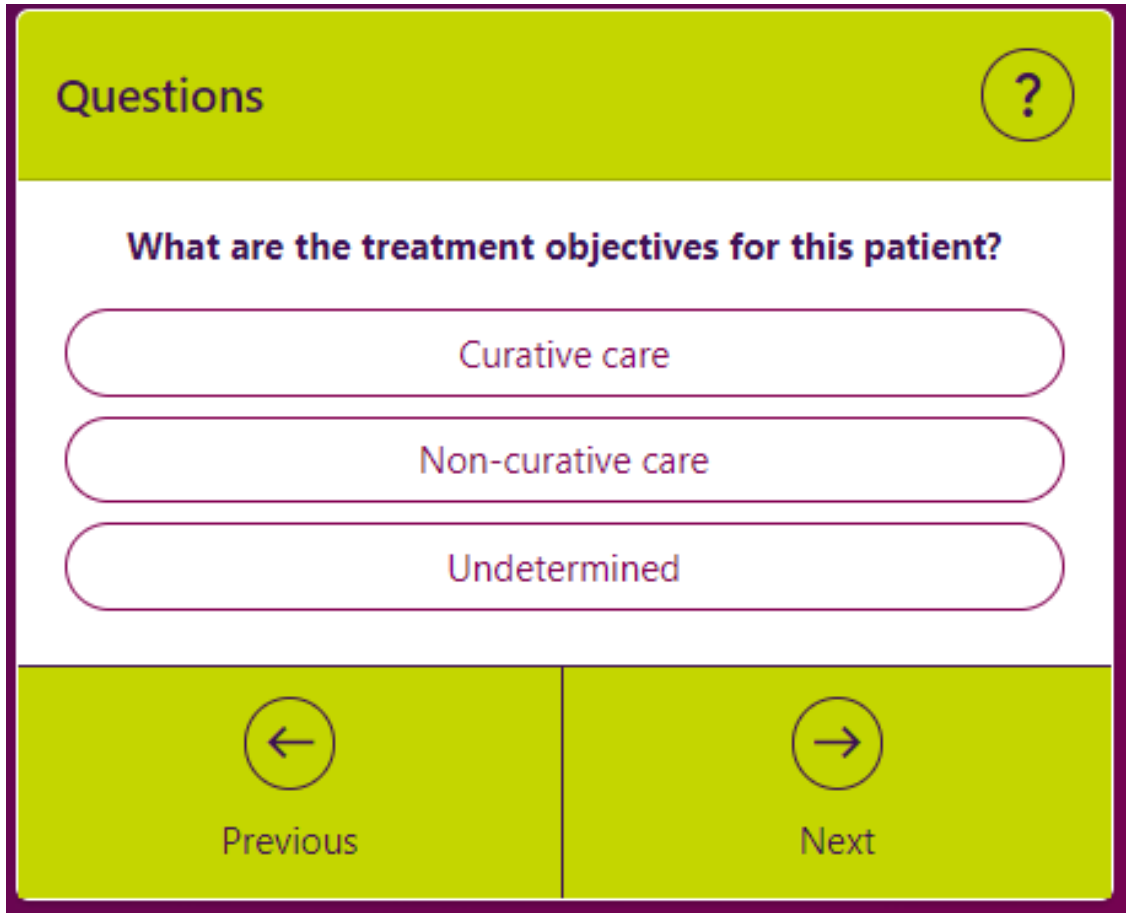
M-kategori



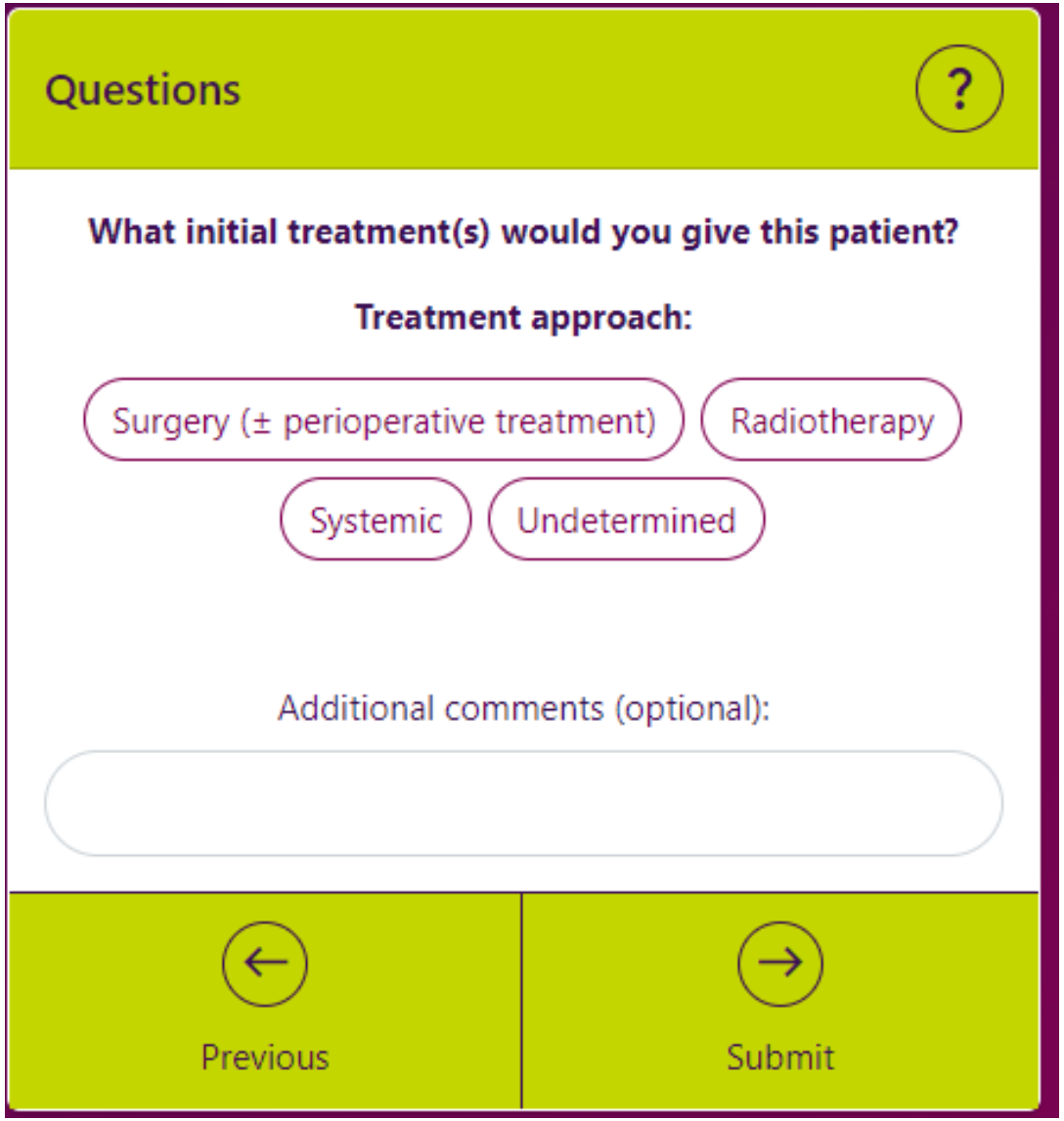
Klassifikation af sygdommen



Kurativt intenderet behandling?



Behandlingsvalg



Review cases

MDT consensus

How the MDT consensus area works

Step 1

Define your MDT consensus group.

The consensus group contains other MDTs who have also reviewed the same cases as you.

Step 2

Analyse your results.

ROSETTA-LUNG compares your case review answers to the most common answer provided by the MDTs included in the consensus group.

Step 3

Learn more and reanalyse!

View any cases where your answer does not match that of the MDT consensus group (discordant cases) to learn more. Or, customise the MDT consensus group to reanalyse the data!

ROSETTA-LUNG

Abbreviations | Torben Riis Rasmussen

- Clinical staging
- Disease classification
- Treatment objectives
- Treatment approach

Patient clinical staging

Review cases

Define MDT consensus group

ALL MDTs

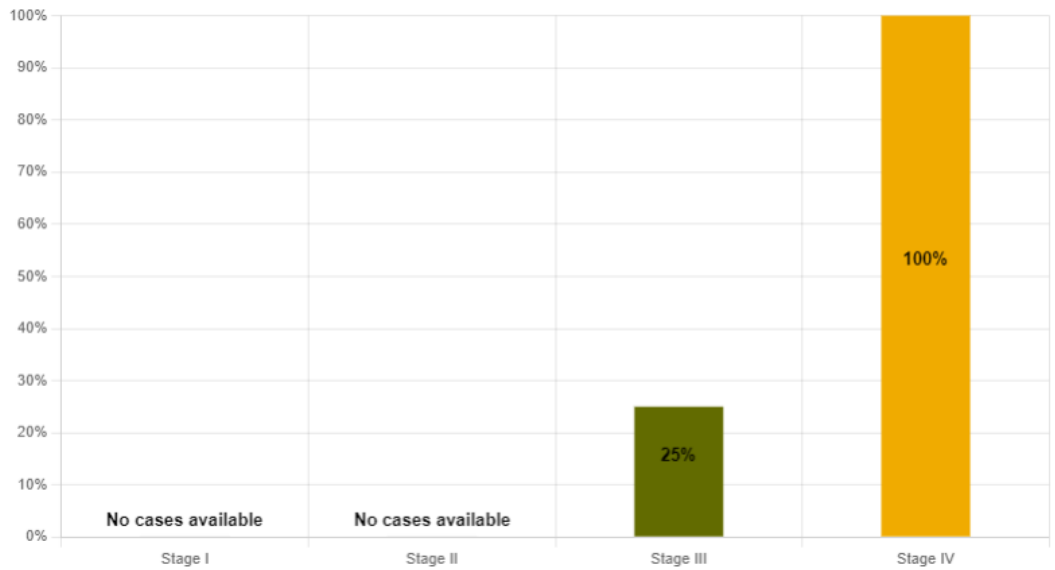
Customise

5 cases analysed

5 MDTs in the consensus group

40% agreement overall, with MDT consensus

Your agreement with MDT consensus by patient stage



Cases are grouped into stages as defined by the MDT consensus

Your discordant cases vs. MDT consensus

Patient case	Your staging	MDT consensus	
44	IIIB	IIIA	
35	IIB	IIIA	
31	IIB	IIIB	

Clinical staging
Disease classification
Treatment objectives
Treatment approach

Disease classification

Review cases

Define MDT consensus group

ALL MDTs

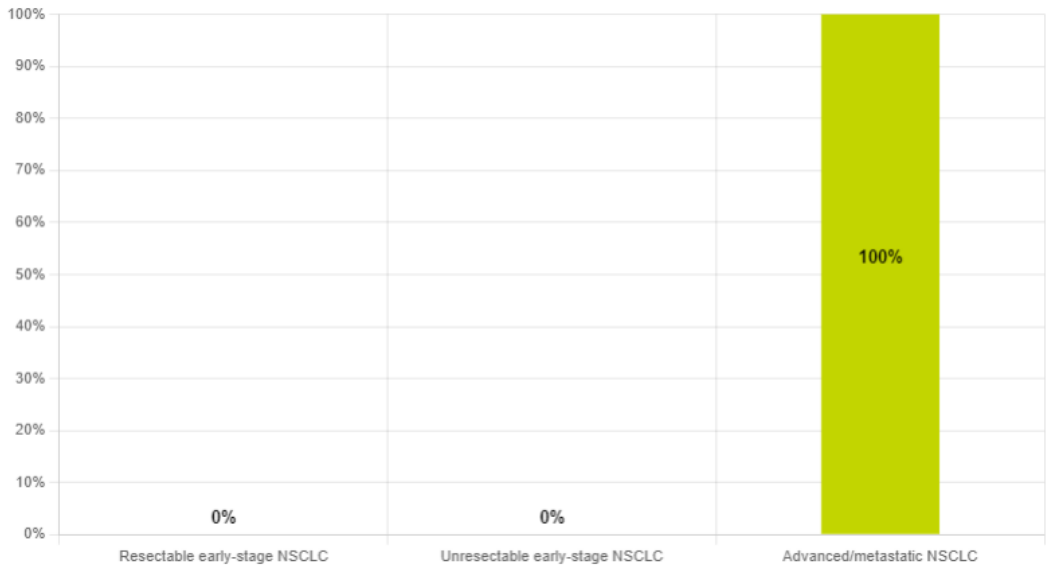
Customise

5 cases analysed

5 MDTs in the consensus group

40% agreement overall, with MDT consensus

Your agreement with MDT consensus by classification type



Cases are grouped into classification as defined by the MDT consensus

Your discordant cases vs. MDT consensus

Patient case	Your classification	MDT consensus
44	Advanced/metastatic NSCLC	Resectable early-stage NSCLC
37	Advanced/metastatic NSCLC	Unresectable early-stage NSCLC
31	Advanced/metastatic NSCLC	Unresectable early-stage NSCLC

Clinical staging
Disease classification
Treatment objectives
Treatment approach

Treatment objectives

Review cases

Define MDT consensus group

ALL MDTs

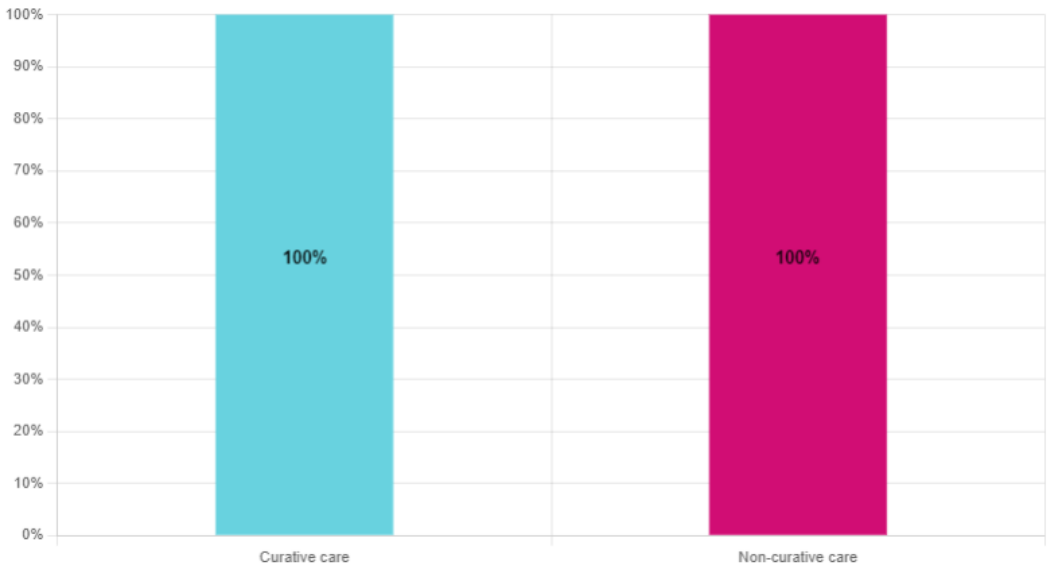
Customise

6 cases analysed

5 MDTs in the consensus group

100% agreement overall, with MDT consensus

Your agreement with MDT consensus by treatment objective



Cases are grouped into objectives as defined by the MDT consensus

Your discordant cases vs. MDT consensus

There are no discordant cases because you are in complete agreement with the MDT consensus

Clinical staging
Disease classification
Treatment objectives
Treatment approach

Treatment approach

Review cases

Define MDT consensus group

ALL MDTs

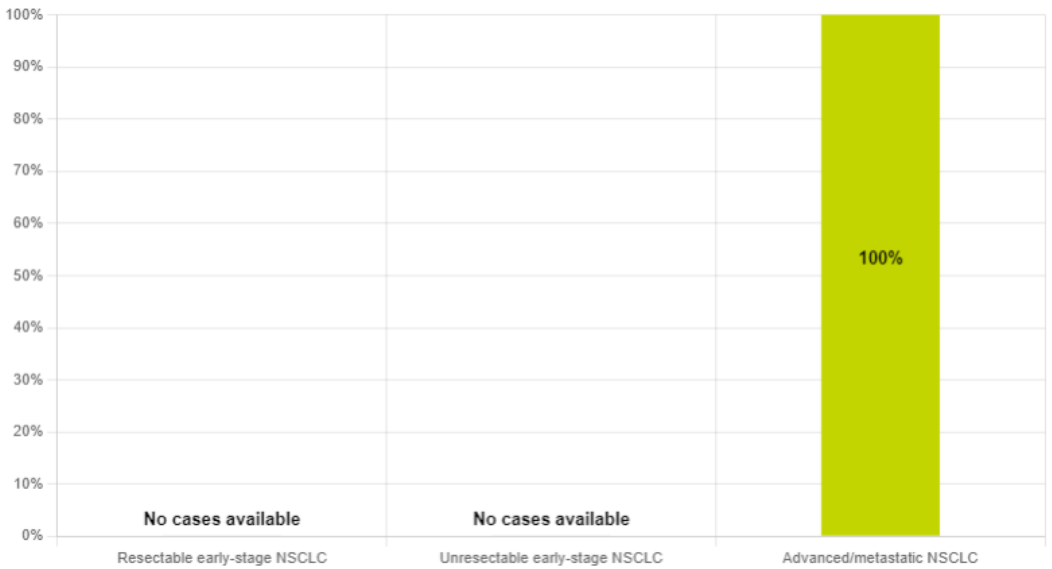
Customise

5 cases analysed

5 MDTs in the consensus group

80% agreement overall, with MDT consensus

Your treatment agreement with MDT consensus by classification type



Cases are grouped into classifications as defined by the MDT consensus

Your discordant cases vs. MDT consensus

Patient case	Your treatment	MDT consensus
44	Concurrent CRT → Anti-PD-(L)1	CTx + anti-PD-(L)1 → Surgery → Anti-PD-(L)1