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ROSETTA-LUNG: multidisciplinaRy Oncology StratEgies for Team-based Treatment concordAnce in Lung Cancer Diagnosis and Treatment Decisions

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Objectives

- To measure and enhance the concordance of MDT diagnosis and treatment decisions in lung cancer.
- To improve equity, treatment harmonization, and guideline adherence worldwide through a standardized approach.
- To create an educational and collaborative tool for trainee HCPs to facilitate discussions on optimal patient management.

Conclusions

- ROSETTA-LUNG signifies a commitment to harmonizing multidisciplinary assessment of lung cancer diagnosis and treatment, acknowledging MDTs as a cornerstone in optimal cancer care.
- This platform allows for concordance to be quantified, whilst also offering an educational tool for HCPs that allows for increased equity among countries that are developing their MDT infrastructure.

Plain language summary

Why did we perform this project?

- Patients with newly diagnosed lung cancer are typically evaluated and discussed by a team of healthcare experts (e.g., medical oncologist, thoracic surgeon etc.) known as a multidisciplinary team (MDT). The MDT discuss a patient's cancer and how best to treat their disease.
  - If the same patient is assessed by MDTs at different hospitals across the country, it could be assumed that the outcomes (disease diagnosis and treatment approach) will be the same; however, previous studies have discovered inconsistencies between MDTs' decisions.
- We aimed to create a digital platform – ROSETTA-LUNG – that MDTs can use to compare how their patient management decisions may differ from other teams assessing the same patients.

How did we perform this project?

- ROSETTA-LUNG was designed in collaboration with a group of seven lung cancer experts (Steering Committee), who advised on key features and data analyses to include.
  - The platform contains 60 fictional lung cancer patient cases; each MDT is asked to assess the stage of cancer the patient has and how they would treat the disease.
- The Steering Committee tested the ROSETTA-LUNG platform by reviewing six patient cases each.

What were the findings of this project?

- The Steering Committee successfully reviewed a collection of patient cases via ROSETTA-LUNG.
- Agreement for how the patients should be managed varied among the Steering Committee:
  - Agreement was highest (range: 83–100%) when deciding on the treatment objective; however, agreement was lowest (range: 40–100%) when determining the specific treatment approach.

What are the implications of this project?

- ROSETTA-LUNG enables MDTs to easily and anonymously explore how their patient management decisions compare with other MDTs and identify ways to improve decision-making in clinical practice.
- The platform can also be used as an educational tool by single healthcare trainees or experts to understand global real-world MDT practices.

Where can I access more information?

- To find out more about ROSETTA-LUNG, please contact Michael Kristensen (michael.kristensen@astrazeneca.com).

Poster | Narrated poster video

Please scan this quick response (QR) code with your smartphone camera or app to obtain a copy of these materials. Alternatively, please use the link below.

[https://bit.ly/3zvkrzc]

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Introduction

- MDT meetings are considered **indispensable for accurate diagnosis, disease staging and treatment management** for patients with cancer.[1–3]
- **Treatment concordance between MDTs is poorly monitored**.
  - It is **assumed** that MDTs in the same country will arrive at the same conclusion concerning patient diagnosis and management by aligning to applicable guidelines.
  - However, some studies have identified **high intra-regional variations**, even in countries containing few oncology centers, in staging and treatment strategies for patients with NSCLC, **especially stage III**, among MDTs.[4–6]
- Further work is needed to **enhance concordance of lung cancer MDT assessments** and promote guideline adherence worldwide.
- Here we present **ROSETTA-LUNG, a cloud-based platform developed** to **explore patient diagnosis and treatment concordance between lung cancer MDTs**.

Methods

Danish Ring Trial[6] (ESR-20-21056): An ESR that investigated the **concordance of four lung cancer MDTs in Denmark**.

Concept development: ROSETTA-LUNG **inspired** by the Danish Ring Trial design.

Steering Committee meeting (concept feedback): Initial feedback on proposed ROSETTA-LUNG platform (case review area, case questions, types of analyses etc.) from an **expert Steering Committee (N=7)**.

ROSETTA-LUNG development: Programming of the **initial platform** containing **key features** agreed with the Steering Committee.

Patient case formatting: **60 fictitious cases** from the Danish Ring Trial translated to English and standardized.

Steering Committee meeting (platform feedback): Review of platform functionality and final feedback. Steering Committee members also **reviewed 6 cases each** using ROSETTA-LUNG.

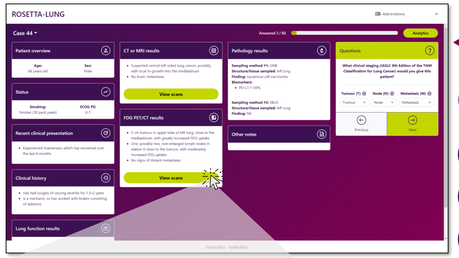
ROSETTA-LUNG launch: Platform launch at **WCLC 2024**.

ROSETTA-LUNG overview

- ROSETTA-LUNG is divided into two main areas: case review (**Figure 1**) and MDT consensus (**Figure 2**).
- There are three types of ROSETTA-LUNG user accounts:
  - **MDT: two or more specialities are present reviewing cases**; responses by these users **contribute** to the MDT consensus dataset.
  - **Single HCP:** a single HCP is reviewing cases; responses by these users **do not contribute** to the MDT consensus dataset.
  - **Trainee HCP:** a single HCP in training is reviewing cases; responses by these users **do not contribute** to the MDT consensus dataset.

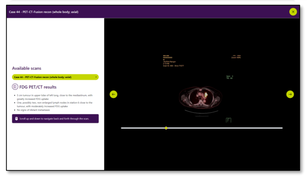
Figure 1. ROSETTA-LUNG: case review area

*The case review area displays a patient overview dashboard including **relevant clinical notes** and **pathology results***



*Users answer the **same four questions** for every case by simply selecting answers via **easy-to-use dropdown menus** or **multiple-choice selections.***

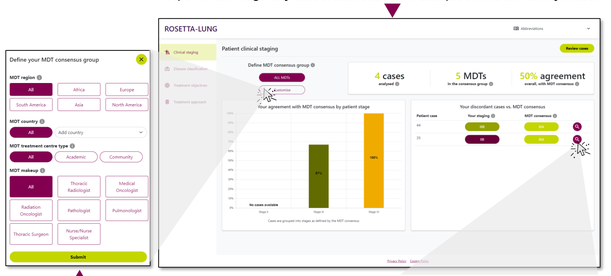
- What clinical staging (IASLC 9th Edition of the TNM Classification for Lung Cancer)[7] would you give this patient?
- How would you classify this patient's disease?
- What are the treatment objectives for this patient?
- What initial treatment(s) would you give this patient?



*Most cases also include **scans (CT, MRI, PET etc.)**, which **can be explored** in a pop-up alongside notes of interest.*

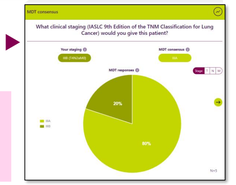
Figure 2. ROSETTA-LUNG: MDT consensus area

*ROSETTA-LUNG compares the users' responses with the **MDT consensus** response and **flags any discordant cases.** All data presented are **anonymized**.*



*Users can **define their own MDT consensus group** based on location, centre type and MDT makeup.*

*Discordant results can be explored further to **understand the proportions of the consensus group's responses**.*



MDT consensus definition
The most common response among the MDTs included in the consensus group.

Steering Committee testing

- Six members of the expert Steering Committee from India, Thailand, Chile, Norway, Germany and the US successfully reviewed the same cases on ROSETTA-LUNG either by themselves or as part of their typical MDT meetings (**Table 1**):
  - Despite the small number of Steering Committee members reviewing these cases, **agreement on how patients should be staged, diagnosed and managed varied**.
  - For cases where there was a consensus response, agreement was **highest when deciding on the treatment objective** (83–100%) but **lowest when determining the specific treatment approach to adopt** (40–100%).
  - Variations in Steering Committee responses may be due to differences in local guidance or team-based methodologies to patient assessment.

Table 1. Steering Committee initial review

	Case 1	Case 2	Case 3	Case 4	Case 5	Case 6
Age (years)	66	68	64	75	72	81
ECOG PS	0–1	1–2	1	0	1	2
Histology	SCC	Adenocarcinoma	SCC	Adenocarcinoma	Adenocarcinoma	SCC
Biomarkers	PD-L1 1–50%	PD-L1 <1%; *EGFR* mutation (ex19del)	PD-L1 1–25%	PD-L1 1–50%	PD-L1 >50%	PD-L1 ≥50%
Steering Committee reviewers (n)	6	6	6	6	5	5
Steering Committee agreement (%)						
Staging	67% stage IIIA 17% stage IIA 17% stage IIIB	stage IVB 83% 17% Undetermined	stage IIIB 100%	67% stage IIIA 33% stage IIB	60% stage IIIB 20% stage IIB 20% stage IIIA	40% stage IVB 40% stage IIIA 20% stage IVA No consensus
Disease classification	rNSCLC 83% 17% a/mNSCLC	a/mNSCLC 100%	UR NSCLC 83% 17% a/mNSCLC	33% UR NSCLC 33% rNSCLC 17% a/mNSCLC 17% Undetermined No consensus	40% UR NSCLC 40% a/mNSCLC 20% rNSCLC No consensus	a/mNSCLC 100%
Treatment objectives	Curative care 100%	Curative care 100%	Curative care 83% 17% Undetermined	Curative care 83% 17% Undetermined	Curative care 100%	Non-curative care 100%
Treatment approach	50% Peri-operative CTx-IO* 17% Surgery -> other 17% cCRT -> anti-PD-(L)1 17% Surgery -> CTx + anti-PD-(L)1	EGFR-TKI 100%	cCRT -> anti-PD-(L)1 100%	cCRT -> anti-PD-(L)1 67% 17% Peri-operative CTx-IO* 17% Undetermined	cCRT -> anti-PD-(L)1 80% 20% Peri-operative CTx-IO*	40% Anti-PD-(L)1 20% sCRT -> anti-PD-(L)1 20% Anti-PD-(L)1 + CTx 20% RT -> other

*CTx + anti-PD-(L)1 -> surgery -> anti-PD-(L)1

Abbreviations

(a/m/r)NSCLC, (advanced/metastatic/resectable) NSCLC; (anti)-PD-(L)1, (anti)-programmed cell death-(ligand) 1; (c/s)CRT, (concurrent/sequential) chemoradiotherapy; CT, computerized tomography; CTx, chemotherapy; ECOG PS, Eastern Cooperative Oncology Group performance status; EGFR, epidermal growth factor receptor; ESR, externally sponsored research; HCP, healthcare professional; IASLC, International Association for the Study of Lung Cancer; IO, immunotherapy; MDT, multidisciplinary team; MRI, magnetic resonance imaging; PET, positron emission tomography; RT, radiotherapy; SCC, squamous cell carcinoma; TKI, tyrosine kinase inhibitor; TNM, tumor, node, metastasis; UR, unresectable US, United States; WCLC, World Conference on Lung Cancer

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