The Actionable Gaps of the Journey of Patients with Lung Cancer

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Introduction

- Despite recent therapeutic advances, the mortality rate is the highest in lung cancer (almost 20%)[1,2]
- Poor survival is attributable mainly to high rates of advanced stage of the disease at diagnosis[3]
- Guidelines for optimal timing of diagnosis and management of lung cancer have been implemented in some countries[4]
  - However, the degree of adherence to these guidelines or the extent of variations across geographies remain unknown
- Timelines of diagnosis and treatment start in lung cancer in Central Eastern and Europe and Baltics Area (CEE-BA) are not available in a centralized manner

Objectives

- To assess the timelines from initial diagnosis to treatment initiation in patients with non-small cell lung cancer (NSCLC) from CEE-BA region
- To identify the major hurdles and address the gaps in current cancer services across the region

Methods

Project design

- OPTIMISE was a retrospective chart review led by healthcare professionals (HCPs) from 11 medical centers in 7 countries (Bulgaria, Czech Republic, Hungary, Latvia, Poland, Romania, Slovakia)
- The review of clinical charts was performed between September and December 2021, and anonymized data were collected in an electronic database

Patients

- Eligible patients were required to have NSCLC diagnosis
- Up to 20 consecutive patients with NSCLC initiating first-line treatment at the medical center participating in the project could be included in the chart review

Variables collected

- The report form for data collection was specifically developed for this project and reviewed by experts in the field
- The following variables were collected from medical charts: time of symptoms onset, first visit to an HCP, first abnormal scan, NSCLC diagnosis, test of biomarkers and treatment initiation

Data analysis

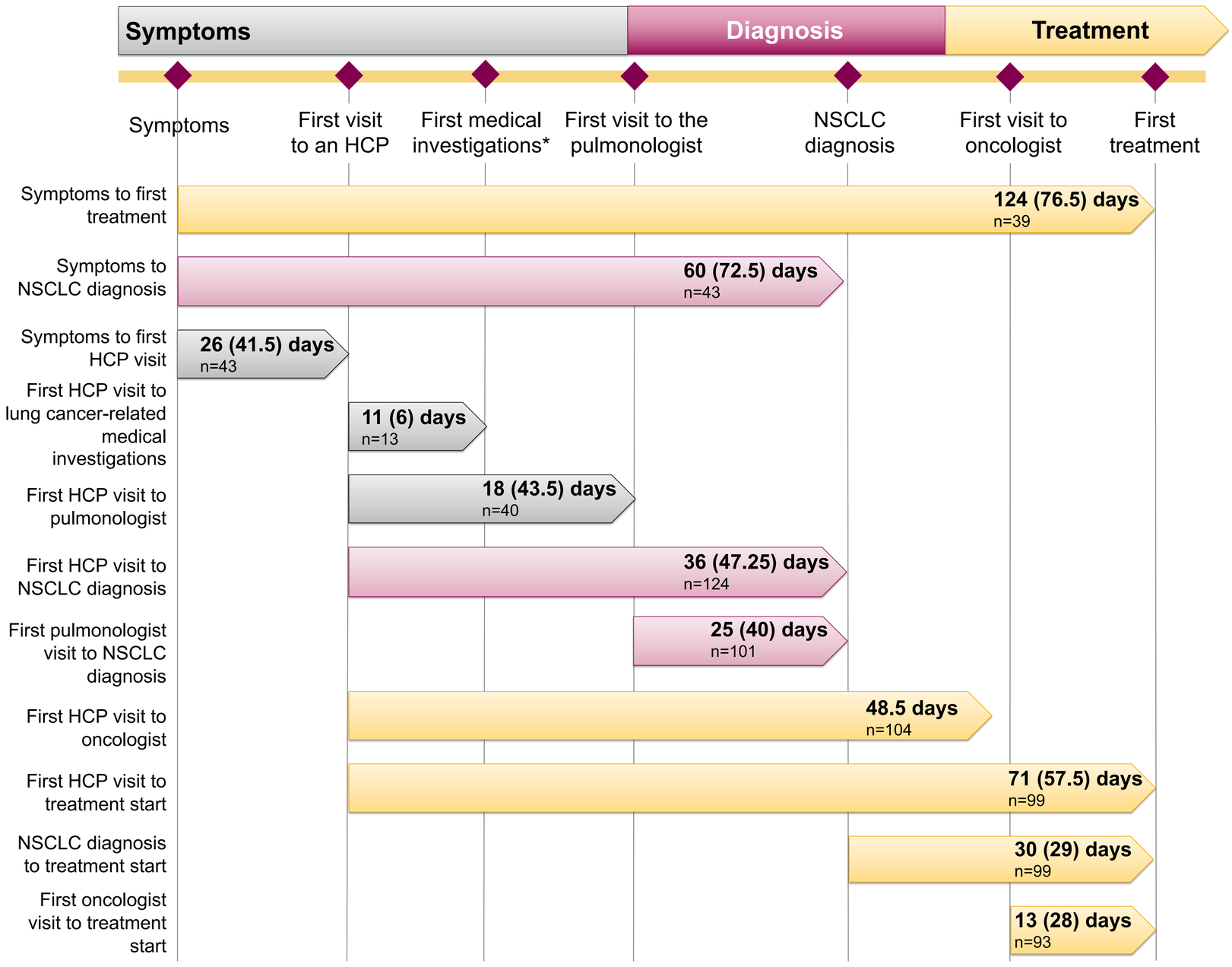
- Data were summarized using descriptive statistics
- Analyses were conducted with the open-source software package *R* (https://www.r-project.org)

Results

Main patient characteristics

- In general, participating centers were National Oncology Centers and University Clinics (45% each)
- In total, 124 medical charts were reviewed and included in this analysis
- The distribution of patients per country is shown in **Table 1**

Figure 1. Timelines across the patient journey from initial symptoms to diagnosis and first treatment. Median (interquartile, IQR) values expressed in days and the number of patients with data available are provided.



*Chest X-ray or computed tomography

Note: Several cases with up to 400 days from symptoms onset or the first visit to HCP to treatment start or more than 100 days from diagnosis to treatment start were reported.
Abbreviations: HCP, healthcare professional; NSCLC, non-small cell lung cancer

First HCP visit

- The first lung cancer-related visit to an HCP was made to pulmonologist (49%), general practitioner (25%), internal medicine specialist (13%), oncologist (3.2%) or other specialists (9.7%)

First medical investigations

- Since presentation to the first HCP, the median time (IQR) to the results of the first lung cancer-related medical investigations varied:
  - 0 (5) days to the first chest X-ray,
  - 5.5 (23.75) days to the first computed tomography (CT),
  - 36 (48.25) days to the first histopathology result,
  - 47(64.5) days to the first biomarker panel test result,
  - 53.5 (67.75) days to the first PET-CT result

NSCLC diagnosis

- In general, the NSCLC diagnosis was pathological (92.7%); in several cases clinical diagnosis was reported (5.6%) or no information was available (1.6%)
- The distribution of I/II/III/IV stages at diagnosis was: 1.6%/4.1%/22.4%/68% (no stage assigned in 4.9% of cases)
- Median time (IQR) from NSCLC diagnosis to biomarker test results was 8 (12) days

Table 1. Patient distribution at country level

Country	N=124 n (%)	Country	N=124 n (%)
Bulgaria	14 (11)	Romania	25 (20)
Czech Republic	30 (24)	Poland	19 (12)
Hungary	9 (7.3)	Slovakia	15 (12)
Latvia	12 (9.7)	-	-

First treatment

- The first treatment for NSCLC included pharmacological therapy (63.7%), chemoradiotherapy (24.2%), radiotherapy (7.3%) and surgery (4.1%), with no data reported for 1 case
- All major timelines are depicted in **Figure 1**

Conclusions

- OPTIMISE is the first project across the CEE-BA countries to assess the current timelines to diagnosis and treatment in NSCLC
- Gaps and delays in referral and availability of testing for diagnosis were identified
- Our findings are in the upper range of time intervals reported in the literature[5]
- Shortened timelines from referral to diagnosis and treatment start are required to allow the stage shift and improved survival in lung cancer
- In-depth analyses of real-world data are relevant for informed healthcare decisions of clinicians and payers and should be extended across all types of centers involved in lung cancer care

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