

Physician perceptions of barriers to Epidermal Growth Factor Receptor mutation (EGFRm) testing in early and advanced (stage I / II / IIIa / IV) Non-Small Cell Lung Cancer (NSCLC)

Jens Samol^{1,2}, Fedor Moiseenko³, Marthe S. Paats⁴, Ingel Demedts⁵, Mustafa Erman⁶, Doreen A Kahangire⁷, Vadim Kozlov⁸, Michael Mark⁹, Jose Minatta¹⁰, Senthil Rajappa¹¹, Mauro Zukin¹², Mutsa Madondo⁷, Aliko Taylor⁷, Tom Bailey¹³

¹Medical Oncology Department Tan Tock Seng Hospital, Singapore; ²Johns Hopkins University, USA; ³Saint Petersburg scientific practical center of specialized kinds of medical care (oncological), St.Academic University, Saint Petersburg, Russia; ⁴Department of Pulmonary Medicine, Erasmus MC, Rotterdam, The Netherlands; ⁵Department of Pulmonary Diseases, AZ Delta, Roeselare, Belgium; ⁶Hacettepe University Cancer Institute, Ankara, Turkey; ⁷Global Medical Evidence Generation, AstraZeneca, Cambridge, UK; ⁸Novosibirsk Regional Clinical Oncology Dispensary, Moscow, Russia; ⁹Kantonsspital Graubünden, Chur, Switzerland; ¹⁰Hospital Italiano de Buenos Aires, Argentina; ¹¹Basavataarakam Indo American Cancer Hospital & Research Institute, Hyderabad, India; ¹²Oncologia D’Or Rio de Janeiro, Rede D’Or, Rio de Janeiro, Brazil; ¹³Adelphi Real World, Bollington, Cheshire, UK.

Objective

- This study investigated real-world EGFR mutation testing patterns in early- and advanced-stage NSCLC, and identified reasons against implementation of testing by surveying physicians’ perceptions

Overall Conclusions (across countries)

- EGFRm testing was reported to be standard practice in the advanced stage setting. Less than half of physicians routinely test for EGFRm in stages I-II, although the proportion of patients tested for EGFRm increased notably from stage I (30%) to stage IIIa (70%)
- Physicians indicate different reasons for not testing for EGFR mutations in early and advanced NSCLC patients. ‘Waiting for patients to progress’ was the main reason for not testing in early-stage disease; ‘inadequate tissue’ was the most commonly selected reason against testing at stage IV
- Physicians sometimes initiate treatment before patients receive EGFRm test results, particularly in the early-stage setting; this is largely due to ‘risk of disease progression’
- With the introduction of targeted therapy in the early-stage disease setting, there is a need to adopt early EGFRm testing to support clinical decision making

Introduction

- EGFR mutations (EGFRm) are known oncogene drivers in NSCLC¹
- Guidelines recommend EGFRm testing as standard of care in patients with advanced NSCLC²
- Third generation EGFR Tyrosine Kinase Inhibitor (TKI), osimertinib, has recently been approved in early-stage disease as adjuvant therapy following results from the phase 3 ADAURA trial. Data from the trial demonstrated significantly longer disease-free survival (DFS) in stage IB – IIIA EGFRm patients receiving osimertinib versus placebo [Stage IB–IIIA DFS Hazard Ratio: 0.20 (99.12% CI: 0.14, 0.30); p < 0.0001]³

Results and interpretation

Table 1: Physician Demographics

	Global (n=338)
Physician specialty, n (%)	
Oncologist	276 (82)
Pulmonologist / respiratory medicine	27 (8)
Other	35 (10)
Early-stage NSCLC patients seen in the past month	
Median (IQR)	10 (5, 20)
Advanced-stage NSCLC patients seen in the past month	
Median (IQR)	20 (10, 39)
Primary setting, n (%)	
Hospital only	174 (52)
Office / clinic only	14 (4)
Hospital and office / clinic	149 (44)

Figure 2: Reasons for not testing for EGFRm in NSCLC

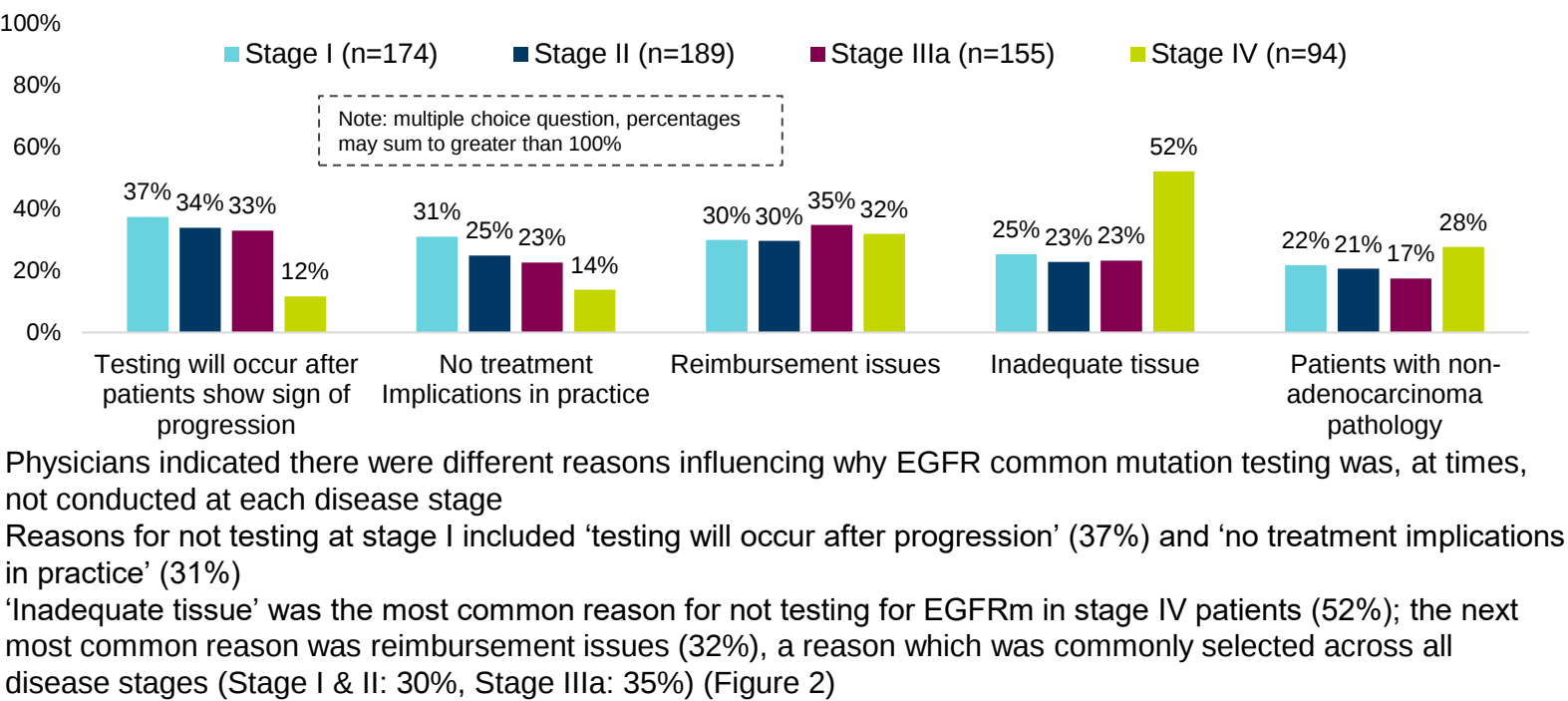
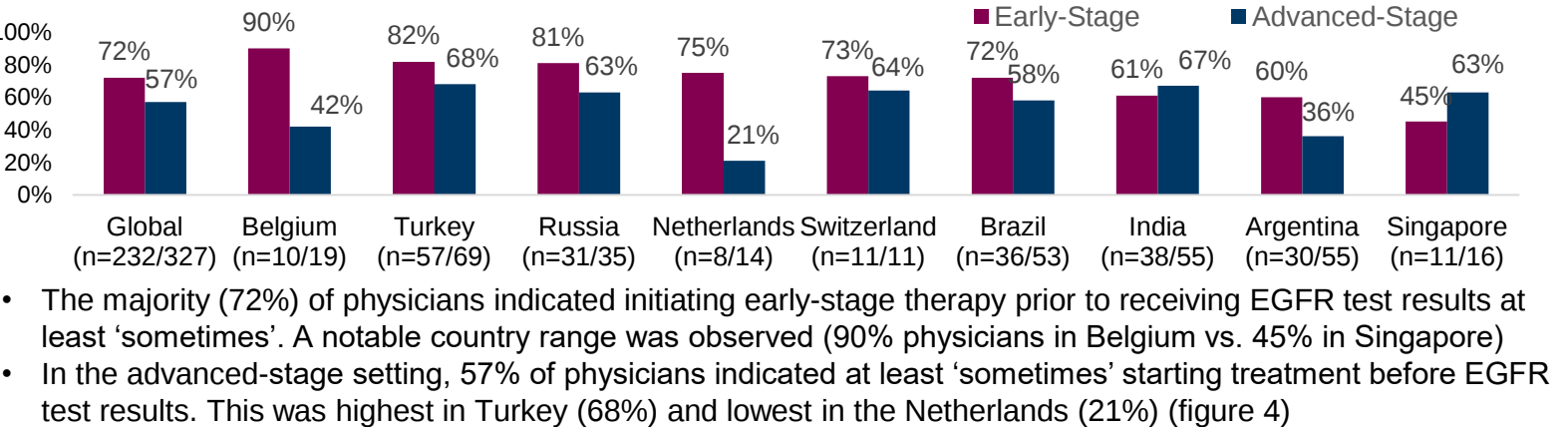


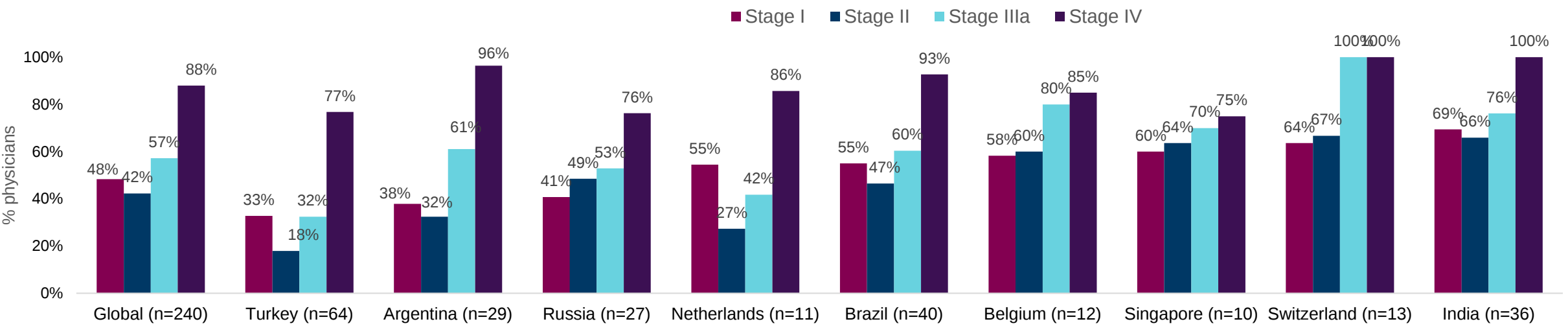
Figure 4: Physicians ‘at least sometimes’ initiating treatment prior to EGFRm test results



Methods

- An online physician survey was conducted in Belgium, Brazil, Switzerland, Argentina, Netherlands, Singapore, Russia, Turkey and India between June and September 2021.
- Physicians provided responses on perceptions of EGFRm testing patterns, interpretation of results, treatment decisions and attitudes towards testing in advanced NSCLC patients
- A central institution review board (WIRB-Copernicus Group) reviewed the study and provided approval prior to the study start
- Physician selection criteria included:
 - Primary specialty: Thoracic/respiratory/general surgeon, oncologist, pulmonologist/respiratory medicine, radiation oncologist, or internal medicine
 - Actively involved in the management of at least 5 early stage OR at least 5 advanced stage NSCLC patients in the past month
 - Qualified for primary medical specialty between 1984 and 2017
- Physicians were invited to participate in the study through an online physician panel
- Results presented here are for physicians who were treating a minimum of 5 early- or advanced-stage NSCLC patients in the previous month
- Data from the first wave of this study were presented at ELCC 2021. Here, we present data on the follow-up study, with a particular focus on early-stage NSCLC

Figure 1: Rate of EGFR common mutation testing ‘routinely’ in early and advanced disease



- The majority of physicians were oncologists (82%), 96% were either hospital only or hospital/office based. Physicians saw a median of 10 early stage and 20 advanced stage NSCLC patients in the previous month (Table 1). 45% of physicians indicated molecular testing took place on-site (data not shown)
- Within the early-stage disease setting, physicians estimated 48% and 42% of patients are ‘routinely’ tested for EGFR common mutations at stages I and II respectively, rising to 57% in stage IIIa. In comparison, physicians indicated ‘routinely’ testing the vast majority (88%) of stage IV patients (Figure 1)
- When asked to estimate the proportion of patients tested at each stage, physicians estimated a median (IQR) 30% (10%,70%) are tested for EGFR common mutations at stage I, 40% (20%,90%) at stage II, 70% (30%,100%) at stage IIIa, and 100% (70%,100%) at stage IV of patients (only includes physicians who test at least ‘rarely’) (data not shown)

Figure 3: Estimated proportion of patients tested for EGFR prior to selecting treatment

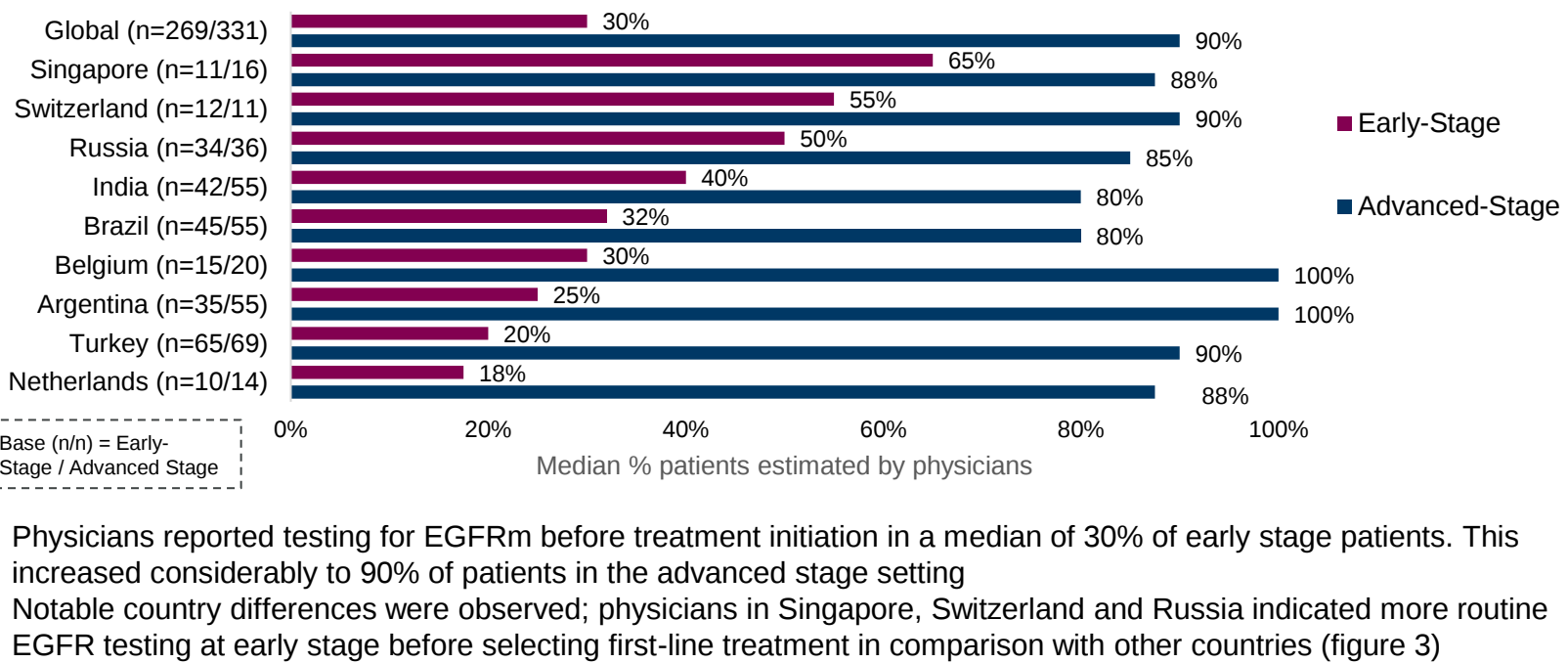


Figure 5: Physician-reported reason(s) for initiating treatment before EGFR test results

