Impact of an EGFR Lung Cancer Diagnosis on Quality of Life of Patients: Learnings from Project PRIORITY

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EGFR Resisters
Patients driving research to save lives

LUNGevity
Find it. Treat it. Live.

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I have served as a consultant* for
- Astra Zeneca
- Boehringer-Ingelheim
- Pfizer
- Takeda

* Unrelated to the current presentation
PROJECT PRIORITY

PATIENT REPORTED INITIATIVE ON RESISTANCE, INCIDENCE, TREATMENT STUDY

October 12, 2019
WHAT IS PROJECT PRIORITY?

• Patient-founded and patient-driven research partnership between the EGFR Resisters and LUNGevity Foundation
• Study Objectives:
  o Understand needs of EGFR-positive lung cancer community
  o Identify areas for improvement in diagnosis and treatment
  o Give voice to patient concerns regarding risk factors, treatments, and symptom and side-effect management
COLLECTING REAL-WORLD PATIENT-REPORTED DATA USING A PATIENT EXPERIENCE SURVEY

- Quantitative survey developed with input from patients, caregivers, clinicians, and regulators
- International survey (only in English) open to patients with a diagnosis of EGFR-positive lung cancer and their caregivers
- 130-question longitudinal survey covering specific domains:
  - Demographics/Risk Factors
  - Diagnostic and treatment journey (including complementary care & adverse event management)
  - Quality of life/Psychosocial impact of diagnosis
  - Identify areas for improvement in diagnosis and treatment
350 participants included in analysis (survey response rate = 30%). Longitudinal component ongoing.

27% international participants (ex-US)

Ex-US: Europe (48%), Australia (23%), Asia (20%), South America (9%)

Active versus environmental tobacco exposure

18.1% 42.3%

Likelihood of developing T790M mutation after first-line treatment (using forward regression)

Afatinib, 2.5X  Erlotinib, 3.3X
TREATMENT JOURNEY OF US AND EX-US PARTICIPANTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>US</th>
<th>Ex-US</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of lines of therapy received</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>45.6%</td>
<td>60.6%*</td>
</tr>
<tr>
<td>Two</td>
<td>26.6%</td>
<td>25.2%</td>
</tr>
<tr>
<td>Three or more</td>
<td>27.8%</td>
<td>14.2%*</td>
</tr>
<tr>
<td>First-line therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combination</td>
<td>27.0%</td>
<td>13.8%*</td>
</tr>
<tr>
<td>Erlotinib</td>
<td>29.0%</td>
<td>35.7%</td>
</tr>
<tr>
<td>Afatinib</td>
<td>12.0%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Gefitinib</td>
<td>0.0%</td>
<td>13.3%*</td>
</tr>
<tr>
<td>Osimertinib</td>
<td>37.4%</td>
<td>15.3%*</td>
</tr>
<tr>
<td>Chemotherapy</td>
<td>17.3%</td>
<td>10.2%*</td>
</tr>
<tr>
<td>Immunotherapy</td>
<td>4.2%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Brain metastasis present</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Type of treatment for brain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>metastasis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Whole brain radiation</td>
<td>13.8%</td>
<td>26%*</td>
</tr>
<tr>
<td>SRS</td>
<td>59.8%</td>
<td>55.0%</td>
</tr>
<tr>
<td>Surgery</td>
<td>15.0%</td>
<td>15.1%</td>
</tr>
<tr>
<td>Controlled by TKI**</td>
<td>42.5%</td>
<td>35.0%*</td>
</tr>
</tbody>
</table>

* - significantly different from US respondents at p < 0.05 by Chi-square
*** - Combination = TKI + chemo or TKI + angiogenesis inhibitor//Excludes radiation

N = 350
Variation in prescribing preferences between US and ex-US due to: approval and availability

Data for each year is the absolute number of respondents who reported using a specific therapy
RATe OF HOSPITALIZATION AMONG RESPONDENTS

Have you ever been hospitalized because of your lung cancer?

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Ex-US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>60.6%</td>
<td>62.4%</td>
</tr>
<tr>
<td>No</td>
<td>39.5%</td>
<td>37.6%</td>
</tr>
</tbody>
</table>

N = 214

61% of respondents report hospitalization during their tx journey

Hospitalization statistics

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Ex-US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of times hospitalized</td>
<td>[1.9 \pm 1.7]</td>
<td>[2 \pm 1.5]</td>
</tr>
<tr>
<td>Total number of days hospitalized</td>
<td>[8 \pm 8.2]</td>
<td>[10.9 \pm 9.1]</td>
</tr>
</tbody>
</table>

N = 214

Reason for hospitalization

<table>
<thead>
<tr>
<th>Reason for hospitalization</th>
<th>US</th>
<th>Ex-US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung disease (asthma, COPD) worsened</td>
<td>1.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Developed heart disease/Heart disease worsened</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Due to symptoms related to the lung cancer</td>
<td>40.5%</td>
<td>34.4%</td>
</tr>
<tr>
<td>Due to side effects of treatment</td>
<td>18.5%</td>
<td>21.9%</td>
</tr>
</tbody>
</table>

N = 214

Major causes
- Pulmonary embolism, Seizures
- Diarrhea (1st and 2nd generation TKI alone or in combination are major predictors)

Presence of co-morbidities
- 80% report no co-morbidities (common co-morbidities include asthma and diabetes)
- Respiratory co-morbidities: No IPF or ILD reported by respondents; 2% reported COPD
RATE OF DIAGNOSED DEPRESSION AMONG RESPONDENTS

Have you ever been diagnosed with depression by your doctor?

- US: 71.0% Yes, 29.0% No
- ex-US: 76.5% Yes, 23.5% No

Were you diagnosed with depression after your lung cancer diagnosis?

- US: 51.8% Yes, 48.2% No
- ex-US: 60.9% Yes, 39.1% No

Have you thought about suicide since your lung cancer diagnosis?

- US: 59% Yes, 41% No
- ex-US: 70% Yes, 30% No

N = 350

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FINANCIAL IMPACT OF AN EGFR CANCER DIAGNOSIS

What are your main concerns when it comes to the cost of cancer care?

- Getting access to treatment/Availability of the medicine
- How much the therapy costs me
- Loss of income from time I must take off from work/earning money to receive my care
- Cost of traveling to receive my treatment/going back home after my treatment
- How much the therapy costs the healthcare system

<table>
<thead>
<tr>
<th>Concern</th>
<th>USA</th>
<th>ex-USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting access to treatment/Availability</td>
<td>49.2%</td>
<td>67.8%</td>
</tr>
<tr>
<td>How much the therapy costs me</td>
<td>76.6%</td>
<td>47.6%</td>
</tr>
<tr>
<td>Loss of income from time I must take off</td>
<td>23.8%</td>
<td>31.0%</td>
</tr>
<tr>
<td>Traveling to receive my treatment</td>
<td>25.0%</td>
<td>29.8%</td>
</tr>
<tr>
<td>How much the therapy costs the healthcare</td>
<td>25.4%</td>
<td>23.9%</td>
</tr>
</tbody>
</table>

* = P < 0.05 by Chi-square test, respondents ranked top concerns from 1 to 5 where 1 = top concern and 5 = least concern

N = 350
CONCLUSIONS

• Project PRIORITY participants match characteristics of the EGFR-positive lung cancer community

• An EGFR lung cancer diagnosis significantly impacts the quality of life, as evidenced by:
  o High rates of hospitalization
  o Depression
  o Financial toxicity associated with treatment

• Additional analysis ongoing:
  o Risk factors including familial history of lung cancer
  o Biomarker testing
  o Treatment sequencing (including clinical trial participation) and side-effect management

Patient-reported data is a powerful source of real-world data and can complement clinician-reported data and electronic health records data to identify treatment patterns
IN MEMORIAM

Anita Figueras
Co-founder, EGFR Resisters

Teri Kennedy
Co-founder, EGFR Resisters