Engaging Patients in Their Biomarker Testing

Andrew Ciupek, PhD
GO2 Foundation for Lung Cancer
USA
## DISCLOSURES

<table>
<thead>
<tr>
<th>Commercial Interest</th>
<th>Relationship(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novartis</td>
<td>Consultant, Advisory Board</td>
</tr>
<tr>
<td>Daiichi Sankyo</td>
<td>Advisory Board</td>
</tr>
<tr>
<td>AstraZeneca</td>
<td>Advisory Board</td>
</tr>
<tr>
<td>GRAIL, Inc.</td>
<td>Consultant</td>
</tr>
</tbody>
</table>
Gaps In Biomarker Testing Persist

<table>
<thead>
<tr>
<th>Variable</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total patients</td>
<td>814 (100)</td>
</tr>
<tr>
<td>Tested for $EGFR/ALK$</td>
<td>479 (59)</td>
</tr>
<tr>
<td>Tested for all 7 NCCN recommended mutations</td>
<td>63 (8)</td>
</tr>
<tr>
<td>Patients aged $\geq$65 y</td>
<td>464 (100)</td>
</tr>
<tr>
<td>Tested for $EGFR/ALK$</td>
<td>272 (59)</td>
</tr>
<tr>
<td>Tested for all 7 NCCN recommended mutations</td>
<td>31 (7)</td>
</tr>
</tbody>
</table>

**Table 2** Guideline Adherence for Genomic Testing

<table>
<thead>
<tr>
<th>Gene</th>
<th>Patients tested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>On targeted therapy</td>
</tr>
<tr>
<td>$EGFR$</td>
<td>45%</td>
</tr>
<tr>
<td>$ALK$</td>
<td>51%</td>
</tr>
<tr>
<td>$ROS1$</td>
<td>43%</td>
</tr>
<tr>
<td>$BRAF$</td>
<td>29%</td>
</tr>
</tbody>
</table>

Abbreviations: ALK = anaplastic lymphoma kinase; EGFR = epidermal growth factor receptor; NCCN = National Comprehensive Cancer Network.

Guitierrez et al. Clinical Lung Cancer 2017

Engaging patients in their own biomarker testing process may be part of a comprehensive strategy to address gaps

Gierman et al. Clinical Lung Cancer 2019
Patients Are Seeking Biomarker Navigation Help

• Approximately 15% of GO2 support calls were primarily for biomarker testing questions in 2020
• Approximately 19% of NSCLC callers had not received testing or did not know
Patient Groups Are Taking Action
What are the barriers for patients trying to engage in the testing process?

What are patients telling us?
"Tim" - Barriers in Care Coordination/Timing

NSCLC adenocarcinoma Stage IV; no testing due to lack of tissue

Initiate Liquid Biopsy Testing Process

Delays: ER Visit, blood collection, testing/report

Doctor prescribes chemo with start date

"We’ll consider testing results for future salvage options"

Chemo Started

Testing Report Complete
Access Barriers: Direct and Indirect

Financial Impact of Testing Itself

- Increasing coverage of approved comprehensive testing panels has greatly increased access
- Coverage of newer technologies not always universal

“Mary” - Cost of procedures required for testing

- Stage IV NSCLC adenocarcinoma with no testing - Started testing process
- Declined to go forward - cost of new biopsy for testing is too much
Paul - Patient Understanding and Empowerment Barriers

- NSCLC adenocarcinoma Stage IIIb newly progressed to stage IV
- No testing was discussed

Confusion about stopping maintenance therapy and change in diagnosis

“I don’t want to upset the doctor with all these questions”

Unsure if testing being performed or how the process was going - unable to confirm with doctors office

“I think the doctor is mad at me”
What are some solutions to empower patients to be a partner in the process?
Patient Education

• Patients who understand the “why” of biomarker testing can be active partners in the process

• Everyday clinical discussions and formal educational programs can play a role
Communication during testing process: Timing

Initiate Testing Process

Chemo/IO Started

Testing Report Complete

? Potential targeted therapy option with favorable outcomes “missed”? Indicated target therapy started

Clear communication about the “how” of biomarker testing and the “need to wait” can help patient understanding
Communication during testing process: Method

• Patient questions regarding testing using liquid biopsy vs. tissue biopsy are common in our support programs

• Clear communication about the uses and selection of a chosen testing method can improve patient understanding
“Patients can then serve as reliable stewards of their critical results, a step that would all but guarantee that patients with driver mutations receive the targeted therapies that are most likely to confer the greatest clinical benefit.”
Patient Friendly Communication of Results

A patient summary of testing results could enhance understanding when:

• Provided to both clinician and patient
• Short length; accessible language
• Point to key approved treatment options
• Indicate key negative results
Don’t forget the role of the caregiver!

Who was the information seeker in LungMATCH?

![Bar chart showing the number of callers who were patients or not patients in different stages of LungMATCH: not started, 1st line, and 2nd line +.](chart.png)
Let the Patient Voice Inform Testing Solutions

• Biomarker testing reports should be developed with patient input
• Patients should be included as advisors on discussions related to biomarker testing efforts
• Support initiatives to develop patient research advocates
Engaging with Diverse Populations

Rates of participation for some racial/ethnic groups are much lower than others.

The percentages for Clinical Trial participation are:

- 6% for African Americans
- 3% for Asian Americans
- 2% for Hispanics

Take Home Message

Patients empowered to take active part in their own care can be valuable partners in the efforts to close biomarker testing gaps.