Neascape[®] Education

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BACKGROUND

The past several years have seen a number of changes in standards of care for patients with advanced non-small cell lung cancer (NSCLC), which has resulted in 5 updates to the National Comprehensive Cancer Network (NCCN) Lung Cancer Guidelines[®] in 2017 alone.¹ As a result, oncologists are challenged to integrate evolving diagnostic paradigms into practice. A study was conducted using virtual patient simulation (VPS) technology to assess medical oncologists' current practices regarding ordering of biomarker testing and diagnosing advanced NSCLC.

METHODS

- The assessment instrument consisted of 2 patient cases presented in a VPS platform that offered a simulated clinical care experience, with freedom of choice in clinical decision making matching the scope of actual practice (Figure 1)²
- The VPS allowed learners to order laboratory tests, make diagnoses, and recommend treatments from a range of options and databases, similar to electronic health records
- Clinical decisions made by participants using open field responses were analyzed and reported
- The VPS cases launched on January 29, 2016, and data were collected through November 29, 2016. All oncologists who made clinical decisions during this study period were included in the analysis

FIGURE 1		
CASE 1 PROFILE: Patient With Newly Diagnosed NSCLC	<section-header><section-header><section-header><section-header><section-header></section-header></section-header></section-header></section-header></section-header>	<section-header><section-header><section-header><section-header><section-header><text><text><text></text></text></text></section-header></section-header></section-header></section-header></section-header>
<section-header></section-header>	<section-header><section-header><section-header></section-header></section-header></section-header>	INTRODUCTION HISTORY OF PRESENT ILLNESS Output is a 38-year-old man who was diagnosed with NSCLC about 4 months ago after he noticed a bothersome, persistent cough. He was diagnosed with stage IV disease based on computed tomography (CT) and positron-emission tomography (PET) scan findings. Molecular testing revealed an <i>EGFR</i> exon 19 deletion and no <i>ALK</i> rearrangements, so the patient began taking eriotinib. Today is a scheduled follow-up visit. Since starting eriotinib, the patient has noticed some diminished appetite, dry eye sensation, and weight loss. In addition, he complains of a return of his cough during the past month and some vague, upper midline back pain during the past 2 weeks that has no relationship to activity. He also has experienced several loose bowel movements ably during the last month or so. Miccations: eriotinib 150 mg daily; loperamide 4 mg as needed Experienced several loose bowel movements ably during the last month or so. FAMLY AND SOCIAL HISTORY The patient denies any family history of cancer. His parents and his 2 sisters are alive and in good health.

Biomarker Testing in Advanced NSCLC: A Simulation-Based Assessment of Medical Oncologists

RESULTS

197 oncologists fulfilled the participation criteria by making clinical decisions within the VPS. Assessment revealed:



In a patient with newly diagnosed advanced NSCLC, 21% of oncologists did not order histopathology to determine subtype (Figure 2A)

- In addition, rates of mutational and other biomarker testing was suboptimal, with order rates across all mutations of less than 50% (Figure 2A)
- Interestingly, although no approved targeted agent exists for MET amplification or RET assay, 17% and 23% of oncologists ordered these molecular tests, respectively (Figure 2B)
- This resulted in nearly one-fifth making an incomplete characterization and, thus, diagnosis of the patient's disease (Figure 2B)

39%

FIGURE 2

Evidence- and Guideline-Based Diagnosis of Newly Diagnosed Advanced NSCLC

A. GUIDELINE BIOMARKER TESTING



Order: PD-L1 IHC staining, tumor tissue

B. ADDITIONAL TESTS ORDERED BY ONCOLOGISTS







- a clinical trial (Figure 3B)

Evidence-Based Management of Patient With Progressive EGFR-Mutated Advanced NSCLC



B. ADDITIONAL TESTS ORDERED BY ONCOLOGISTS



CONCLUSION

Histopathologic and biomarker testing are critical elements for characterizing the disease of a patient with advanced NSCLC, as these tests determine the most appropriate regimen. This remains true in patients whose disease has been identified as EGFR-mutated but who progressed on first-line therapy. Our analysis of current practice using a VPS platform that immerses and engages the clinician for an authentic, practical, and consequence-free patient care experience demonstrates that there is variability in biomarker testing by oncologists. In addition, our findings demonstrate a continued need to educate oncologists regarding the importance of prioritizing biomarker tests in order to select the most appropriate regimen for a patient with advanced NSCLC and optimize clinical outcomes.

References

- 1. National Cancer Care Network. Non-small Cell Lung Cancer Guidelines[®] Version 8.2017. Accessed August 23, 2017.
- 2. Fidias, P, Ramalingam S. *EGFR*-Mutated NSCLC: Personalizing Therapy to Meet a Patient's Needs. http://www.medscape.org/ viewarticle/867471. Accessed: August 14, 2017.

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