# **BEYOND THE GUIDELINES** Clinical Investigator Perspectives on the Management of Lung Cancer

# **CME** Information

# TARGET AUDIENCE

This activity is intended for hematologists, medical oncologists and other healthcare providers involved in the treatment of lung cancer.

# **OVERVIEW OF ACTIVITY**

Lung cancer is a devastating disease with broad-reaching impact on public health as it accounts for 14% of all new cancer cases in the United States and the most cancer-related deaths among both men and women. In the year 2019, it is estimated that approximately 228,150 individuals will be diagnosed and 142,670 will die from the disease. Of importance, despite the many advances over the past few decades related to surgery, radiation therapy and chemotherapy, death rates attributable to lung cancer have remained relatively unchanged. Today, however, many have renewed optimism that these trends have already started to change as recent research advances have led to an explosion in lung cancer genetic and biologic knowledge among scientists and clinicians working in this area of cancer medicine. Over the past several years major clinical trials in lung cancer have witnessed a host of promising successes, many of which are already being operationalized in clinical practice. Even so, these achievements will doubtlessly continue to be dissected in the upcoming years and will further challenge the collective understanding of the biology and optimal management of this disease.

Several consensus- and evidence-based treatment guidelines are available and aim to assist clinicians with making management decisions in this dynamic clinical and research environment. However, in situations where multiple acceptable therapeutic options exist, such guidelines may not be particularly helpful at the time of decision-making. By exploring the perspectives of leading investigators regarding a number of clinical scenarios and reviewing key data sets, these proceedings from a CME symposium during the 2019 ASCO Annual Meeting will assist medical oncologists and other allied healthcare professionals in the development of evidence-based strategies for the treatment of lung cancer.

#### LEARNING OBJECTIVES

• Appraise the recent FDA approval of anti-PD-L1 antibody consolidation therapy for patients with unresectable Stage III non-small cell lung cancer (NSCLC) who have not

experienced disease progression after standard platinumbased chemotherapy concurrent with radiation therapy, and discern how this strategy can be appropriately and safely integrated into routine clinical practice.

- Review recent FDA approvals and other therapeutic advances related to the use of anti-PD-1/PD-L1 antibodies as monotherapy or in combination with chemotherapy or chemobiologic therapy for newly diagnosed metastatic NSCLC.
- Consider emerging research data and available guidelines informing the use of immune checkpoint inhibitors for patients with advanced small cell lung cancer (SCLC).
- Recall the design of ongoing clinical trials evaluating anti-PD-1/PD-L1 antibodies in combination with other systemic therapies for NSCLC and SCLC, and counsel appropriate patients about availability and participation.
- Review published research data documenting the safety and efficacy of EGFR tyrosine kinase inhibitors for metastatic NSCLC with an EGFR tumor mutation, and discern how this information should be applied outside of a research setting.
- Communicate the efficacy and safety of approved and investigational ALK inhibitors to appropriate patients with NSCLC.
- Assess other oncogenic pathways mediating tumor growth in unique patient subgroups, and recall emerging data with commercially available and experimental agents exploiting these targets.

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**FACULTY** — The following faculty (and their spouses/partners) reported relevant conflicts of interest, which have been resolved through a conflict of interest resolution process:

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#### Hardware/Software Requirements:

A high-speed Internet connection A monitor set to 1280 x 1024 pixels or more Internet Explorer 11 or later, Firefox 56 or later, Chrome 61 or later, Safari 11 or later, Opera 48 or later Adobe Flash Player 27 plug-in or later Adobe Acrobat Reader (Optional) Sound card and speakers for audio **Release date:** July 2019

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#### Gregory J Riely, MD, PhD

Le X et al. Landscape of EGFR-dependent and -independent resistance mechanisms to osimertinib and continuation therapy beyond progression in EGFR-mutant NSCLC. *Clin Cancer Res* 2018;24(24):6195-203.

Mok T et al. Dacomitinib (daco) versus gefitinib (gef) for first-line treatment of advanced NSCLC (ARCHER 1050): Final overall survival (OS) analysis. *Proc ASCO* 2018; Abstract 9004.

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Piotrowska Z et al. Landscape of acquired resistance to osimertinib in EGFR-mutant NSCLC and clinical validation of combined EGFR and RET inhibition with osimertinib and BLU-667 for acquired RET fusion. *Cancer Discov* 2018;8(12):1529-39.

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Thress KS et al. Acquired EGFR C797S mutation mediates resistance to AZD9291 in non-small cell lung cancer harboring EGFR T790M. *Nat Med* 2015;21(6):560-2.

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Yu HA et al. Acquired resistance of EGFR-mutant lung cancer to a T790M-specific EGFR inhibitor: Emergence of a third mutation (C797S) in the EGFR tyrosine kinase domain. *JAMA Oncol* 2015;1(7):982-4.

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#### D Ross Camidge, MD, PhD

Besse B et al. Lorlatinib in patients (Pts) with previously treated ALK+ advanced non-small cell lung cancer (NSCLC): Updated efficacy and safety. *Proc ASCO* 2018; Abstract 9032.

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Crino L et al. Multicenter phase II study of whole-body and intracranial activity with ceritinib in patients with ALK-rearranged non-small-cell lung cancer previously treated with chemotherapy and crizotinib: Results from ASCEND-2. *J Clin Oncol* 2016;34(24):2866-73.

Descourt R et al. Brigatinib in pretreated patients with ALK-positive advanced NSCLC. Proc ASCO 2019; Abstract 9045.

Doebele RC et al. Efficacy and safety of entrectinib in locally advanced or metastatic ROS1 fusion-positive non-small cell lung cancer (NSCLC). *Proc WCLC* 2018; Abstract OAO2.01.

Drilon A et al. Efficacy of larotrectinib in TRK fusion-positive cancers in adults and children. *N Engl J Med* 2018;378(8):731-9.

Gadgeel S et al. Alectinib vs crizotinib in treatment-naïve ALK+ NSCLC: CNS efficacy results from the ALEX study. *Proc ESMO* 2017; Abstract 12980\_PR.

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Horn L et al. Ensartinib (X-396) in ALK-positive non-small cell lung cancer: Results from a first-in-human phase I/II, multicenter study. *Clin Cancer Res* 2018;24(12):2771-9.

Ou SHI et al. Alectinib in crizotinib-refractory ALK-rearranged non-small-cell lung cancer: A phase II global study. J Clin Oncol 2016;34(7):661-8.

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Peters S et al; ALEX Trial Investigators. Alectinib versus crizotinib in untreated ALK-positive non-small-cell lung cancer. N Engl J Med 2017;377(9):829-83.

Shaw AT et al. Efficacy of lorlatinib in patients (pts) with advanced ALK-positive non-small cell lung cancer (NSCLC) and ALK kinase domain mutations. *Proc AACR* 2018; Abstract CT044.

Shaw AT et al. Alectinib in ALK-positive, crizotinib-resistant, non-small-cell lung cancer: A single-group, multicentre, phase 2 trial. *Lancet Oncol* 2016;17(2):234-42.

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#### Stephen V Liu, MD, PhD

Antonia SJ et al. Nivolumab alone and nivolumab plus ipilimumab in recurrent small-cell lung cancer (CheckMate 032): A multicentre, open-label, phase 1/2 trial. *Lancet Oncol* 2016;17(7):883-95.

Chung HC et al. Phase 2 study of pembrolizumab in advanced small-cell lung cancer (SCLC): KEYNOTE-158. *Proc ASCO* 2018; Abstract 8506.

Hellmann MD et al. Genomic features of response to combination immunotherapy in patients with advanced non-small-cell lung cancer. *Cancer Cell* 2018;33(5):843-52.e4.

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#### David R Spigel, MD

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Forde P et al. Neoadjuvant PD-1 blockade in resectable lung cancer. N Engl J Med 2018;378(21):1976-86.

Formenti SC, Demaria S. Combining radiotherapy and cancer immunotherapy: A paradigm shift. *J Natl Cancer Inst* 2013;105(4):256-65.

# **Select Publications**

#### Professor Solange Peters, MD, PhD

Barlesi F et al. IMpower132: Efficacy of atezolizumab (atezo) + carboplatin (carbo)/cisplatin (cis) + pemetrexed (pem) as 1L treatment in key subgroups with stage IV non-squamous non-small cell lung cancer (NSCLC). *Proc ESMO* 2018;Abstract LBA54.

Brahmer J et al. Updated analysis of KEYNOTE-024: Pembrolizumab vs platinum-based chemotherapy for advanced NSCLC with PD-L1 TPS ≥50%. *Proc WCLC* 2017;Abstract OA 17.06.

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Melero I et al. Evolving synergistic combinations of targeted immunotherapies to combat cancer. *Nat Rev Cancer* 2015;15(8):457-72.

Mok TS et al; KEYNOTE-042 Investigators. **Pembrolizumab versus chemotherapy for previously untreated**, **PD-L1-expressing**, **locally advanced or metastatic non-small-cell lung cancer (KEYNOTE-042): A randomised, open-label, controlled, phase 3 trial.** *Lancet* 2019;393(10183):1819-30.

Paz-Ares LG et al. Results from a second-line (2L) NSCLC cohort treated with M7824 (MSB0011359C), a bifunctional fusion protein targeting TGF-β and PD-L1. *Proc ASCO* 2018; Abstract 9017.

Reck M et al. Pembrolizumab versus chemotherapy for PD-L1–positive non–small-cell lung cancer. N Engl J Med 2016;375:1823-33.

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