# Lung Cancer Update

## Issue 1, 2018 (Video Program)

### **CME Information**

### **TARGET AUDIENCE**

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

### **OVERVIEW OF ACTIVITY**

Traditional chemotherapy, surgery and radiation therapy have had a modest effect on long-term outcomes for patients with lung cancer. However, the advent of biologic and immunotherapeutic agents has led to recent improvements in disease-free and overall survival in select populations. In order to offer optimal patient care — including the option of clinical trial participation — clinicians must be well informed of these advances. Featuring information on the latest research developments, this program is designed to assist medical and radiation oncologists with the formulation of up-to-date strategies for the care of patients with lung cancer.

### **LEARNING OBJECTIVES**

- Compare and contrast the mechanisms of action, efficacy and safety/toxicity of approved and investigational anti-PD-1/PD-L1 antibodies for the treatment of non-small cell lung cancer (NSCLC) to determine the current and/or potential utility of each in clinical practice.
- Appraise emerging research data documenting the benefits and risks of sequential anti-PD-L1 antibody therapy for patients with locally advanced, unresectable NSCLC who have not experienced disease progression after standard platinum-based chemotherapy concurrent with radiation therapy.
- Develop a genomic testing algorithm to assist in identifying appropriate patients eligible for protocol and clinical targeted treatment options.
- Consider published safety and efficacy data with available and emerging therapeutic strategies, and appropriately incorporate targeted therapies into the care of patients with identified tumor driver mutations or alterations.
- Educate patients about the side effects associated with recently approved novel agents and immunotherapeutic approaches, and provide preventive strategies to reduce or ameliorate these toxicities.
- Recall the design of ongoing clinical trials evaluating novel immunotherapeutic approaches alone or in combination with other systemic therapies for NSCLC, and counsel appropriate patients about availability and participation.

### **ACCREDITATION STATEMENT**

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

### **CREDIT DESIGNATION STATEMENT**

Research To Practice designates this enduring material for a maximum of 2.5 AMA PRA Category 1 Credits<sup>TM</sup>. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

### AMERICAN BOARD OF INTERNAL MEDICINE (ABIM) — MAINTENANCE OF CERTIFICATION (MOC)

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 2.5 Medical Knowledge MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Please note, this program has been specifically designed for the following ABIM specialty: **medical oncology**.

Personal information and data sharing: Research To Practice aggregates deidentified user data for program-use analysis, program development, activity planning and site improvement. We may provide aggregate and deidentified data to third parties, including commercial supporters. We do not share or sell personally identifiable information to any unaffiliated third parties or commercial supporters. Please see our privacy policy at **ResearchToPractice.com/Privacy-Policy** for more information.

### **HOW TO USE THIS CME ACTIVITY**

This CME activity consists of a video component. To receive credit, the participant should review the CME information, watch the video, complete the Post-test with a score of 80% or better and fill out the Educational Assessment and Credit Form located at ResearchToPractice.com/LCU118/Video/CME. The corresponding audio program is available as an alternative at ResearchToPractice.com/LCU118.

### **CONTENT VALIDATION AND DISCLOSURES**

Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess conflicts of interest with faculty, planners and managers of CME activities. Conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

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

### Matthew D Hellmann, MD

Medical Oncologist Memorial Sloan Kettering Cancer Center New York, New York

**Consulting Agreements:** AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Genentech BioOncology, Janssen Biotech Inc, Merck, Novartis.

### Lecia V Sequist, MD, MPH

Associate Professor of Medicine Harvard Medical School Center for Thoracic Cancers Massachusetts General Hospital Cancer Center Boston, Massachusetts

Advisory Committee: AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Genentech BioOncology, Pfizer Inc; Contracted Research: AstraZeneca Pharmaceuticals LP, Boehringer Ingelheim Pharmaceuticals Inc, Merrimack Pharmaceuticals Inc, Novartis.

EDITOR — Dr Love is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Acerta Pharma, Adaptive Biotechnologies, Agendia Inc, Agios Pharmaceuticals Inc, Amgen Inc, Ariad Pharmaceuticals Inc, Array BioPharma Inc, Astellas Pharma Global Development Inc, AstraZeneca Pharmaceuticals LP, Baxalta Inc, Bayer HealthCare Pharmaceuticals, Biodesix Inc, bioTheranostics Inc, Boehringer Ingelheim Pharmaceuticals Inc, Boston Biomedical Pharma Inc, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, CTI BioPharma Corp, Dendreon Pharmaceuticals

Inc., Eisai Inc., Exelixis Inc., Foundation Medicine, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Halozyme Inc, ImmunoGen Inc, Incyte Corporation, Infinity Pharmaceuticals Inc, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, administered by Janssen Scientific Affairs LLC, Jazz Pharmaceuticals Inc, Kite Pharma Inc, Lexicon Pharmaceuticals Inc, Lilly, Medivation Inc, a Pfizer Company, Merck, Merrimack Pharmaceuticals Inc., Myriad Genetic Laboratories Inc, NanoString Technologies, Natera Inc, Novartis, Novocure, Onyx Pharmaceuticals, an Amgen subsidiary, Pfizer Inc, Pharmacyclics LLC, an AbbVie Company, Prometheus Laboratories Inc. Puma Biotechnology Inc., Regeneron Pharmaceuticals Inc., Sanofi Genzyme, Seattle Genetics, Sigma-Tau Pharmaceuticals Inc., Sirtex Medical Ltd., Spectrum Pharmaceuticals Inc, Taiho Oncology Inc, Takeda Oncology, Tesaro Inc, Teva Oncology and Tokai Pharmaceuticals Inc.

### RESEARCH TO PRACTICE STAFF AND EXTERNAL

**REVIEWERS** — The scientific staff and reviewers for Research To Practice have no relevant conflicts of interest to disclose.

This educational activity contains discussion of published and/ or investigational uses of agents that are not indicated by the Food and Drug Administration. Research To Practice does not recommend the use of any agent outside of the labeled indications. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings. The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.

This activity is supported by educational grants from AbbVie Inc, AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company, Celgene Corporation, Genentech BioOncology, Lilly, Merck, Novartis and Takeda Oncology.

### 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: April 2018 Expiration date: April 2019

### **Select Publications**

A phase I/II study of MK-3475 (SCH900475) in combination with chemotherapy or immunotherapy in patients with locally advanced or metastatic non-small cell lung carcinoma. NCT02039674

A phase III, open-label, randomized study of atezolizumab (MPDL3280A, anti-PD-L1 antibody) in combination with carboplatin + paclitaxel with or without bevacizumab compared with carboplatin + paclitaxel + bevacizumab in chemotherapy-naïve patients with stage IV non-squamous non-small cell lung cancer. NCT02366143

A phase III randomized, open-label, multi-center, global study of MEDI4736 in combination with tremelimumab therapy or MEDI4736 monotherapy versus standard of care platinum-based chemotherapy in first line treatment of patients with advanced or metastatic non small-cell lung cancer (NSCLC) (MYSTIC). NCT02453282

Antonia SJ et al; PACIFIC Investigators. **Durvalumab after chemoradiotherapy in stage III non-small-cell lung cancer.** *N Engl J Med* 2017;377(20):1919-29.

Carbone D et al. First-line nivolumab in stage IV or recurrent non-small-cell lung cancer. N Engl J Med 2017;376(25):2415-26.

Chaft JE et al. Neoadjuvant nivolumab in early-stage, resectable non-small cell lung cancers. Proc ASCO 2017; Abstract 8508.

Goldman JW et al. Nivolumab (N) plus ipilimumab (I) as first-line (1L) treatment for advanced (adv) NSCLC: 2-yr OS and long-term outcomes from CheckMate 012. Proc ASCO 2017; Abstract 9093.

Heist RS et al. Acquired resistance to crizotinib in NSCLC with MET exon 14 skipping. J Thorac Oncol 2016;11(8):1242-5.

Hellmann MD et al. Nivolumab (nivo) ± ipilimumab (ipi) in advanced small-cell lung cancer (SCLC): First report of a randomized expansion cohort from CheckMate 032. *Proc ASCO* 2017; Abstract 8503.

Hellmann MD et al. Nivolumab plus ipilimumab as first-line treatment for advanced non-small-cell lung cancer (CheckMate 012): Results of an open-label, phase 1, multicohort study. *Lancet Oncol* 2017;18(1):31-41.

Lee CK et al. Checkpoint inhibitors in metastatic EGFR-mutated non-small cell lung cancer — A meta-analysis. *J Thorac Oncol* 2017;12(2):403-7.

Leonardi GC et al. Use of PD-1 pathway inhibitors among patients with non-small cell lung cancer (NSCLC) and preexisting autoimmune disorders. *Proc ASCO* 2017:Abstract 9081.

Naidoo J et al. Pneumonitis in patients treated with anti-programmed death-1/programmed death ligand 1 therapy. *J Clin Oncol* 2017;35(7):709-17.

Osorio JC et al. Antibody-mediated thyroid dysfunction during T-cell checkpoint blockade in patients with non-small-cell lung cancer. *Ann Oncol* 2017;28(3):583-9.

Paz-Ares L et al. PACIFIC: A double-blind, placebo-controlled phase III study of durvalumab after chemoradiation therapy (CRT) in patients with stage III, locally advanced, unresectable NSCLC. *Proc ESMO* 2017; Abstract LBA1\_PR.

Rai R et al. Immunotherapy in patients with concurrent solid organ transplant, HIV, and hepatitis B and C. *Proc ESMO* 2017; Abstract 11489PD.

Ramalingam SS et al. Osimertinib vs standard of care (SoC) EGFR-TKI as first-line therapy in patients (pts) with EGFRm advanced NSCLC: FLAURA. *Proc ESMO* 2017; Abstract LBA2 PR.

Sabari JK et al. PD-L1 expression and response to immunotherapy in patients with MET exon 14-altered non-small cell lung cancers (NSCLC). *Proc ASCO* 2017; Abstract 8512.

Santini FC et al. Safety of retreatment with immunotherapy after immune-related toxicity in patients with lung cancers treated with anti-PD(L)-1 therapy. *Proc ASCO* 2017; Abstract 9012.

Soria JC et al; FLAURA Investigators. **Osimertinib in untreated EGFR-mutated advanced non-small-cell lung cancer.** *N Engl J Med* 2018;378(2):113-25.

Yang JCH et al. Osimertinib activity in patients (pts) with leptomeningeal (LM) disease from non-small cell lung cancer (NSCLC): Updated results from BLOOM, a phase I study. *Proc ASCO* 2016; Abstract 9002.

Zalcman G et al. Second or 3rd line nivolumab (Nivo) versus nivo plus ipilimumab (Ipi) in malignant pleural mesothelioma (MPM) patients: Updated results of the IFCT-1501 MAPS2 randomized phase 2 trial. *Proc ESMO* 2017;Abstract LBA58\_PR.