

The Current and Emerging Role of Immune Checkpoint Inhibitors in the Management of Lung Cancer

A CME Symposium During the 16th World Conference on Lung Cancer

CME Information

TARGET AUDIENCE

This activity is intended for hematologists, medical oncologists and other healthcare providers involved in the treatment of non-small cell lung cancer (NSCLC).

OVERVIEW OF ACTIVITY

Lung cancer is a broad-reaching and devastating disease representing approximately 13% of all new cancer cases and 27% of all cancer deaths annually in the United States. However, the past several years have seen an explosion in the emergence of new potential therapies that leverage the natural ability of the human body to attack and treat cancer. Known as immune-mediated therapies or cancer immunotherapies, these promising treatments are taking center stage at medical conferences and generating excitement all over the world.

These video proceedings from a CME symposium held in conjunction with the 16th World Conference on Lung Cancer feature discussions with leading researchers with an expertise in the management of lung cancer regarding actual patient cases and related clinical research findings relevant to immunotherapy to address existing uncertainties and help keep clinicians up to date and informed on the current and future role of immunotherapies in the management of lung cancer.

LEARNING OBJECTIVES

- Analyze the biologic basis for various immunotherapeutic strategies designed to boost an individual's immune response to combat cancer.
- Compare and contrast the mechanisms of action, efficacy and safety/toxicity of immunotherapies under investigation for the treatment of lung cancer.
- Appraise the rationale for and clinical data with investigational anti-PD-1 and anti-PD-L1 antibodies for patients with lung cancer.
- Recognize immune-related adverse events and other common side effects associated with approved and developmental immunotherapeutic agents in order to offer supportive management strategies.
- Recall the design of ongoing clinical trials evaluating novel immunotherapeutic approaches, and counsel appropriately

selected patients with lung cancer about availability and participation.

ACCREDITATION STATEMENT

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HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should watch the video, complete the Post-test with a score of 75% or better and fill out the Educational Assessment and Credit Form located at ResearchToPractice.com/IASLCImmunotherapy15/CME.

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

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No real or apparent conflicts of interest to disclose.

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Consulting Agreements: AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Boehringer Ingelheim Pharmaceuticals Inc, Genentech BioOncology, GlaxoSmithKline, ImClone Systems, a wholly owned subsidiary of Eli Lilly and Company, Lilly, Merck, Novartis Pharmaceuticals Corporation, Pfizer Inc, Roche Laboratories Inc, Sanofi.

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This activity is supported by educational grants from AstraZeneca Pharmaceuticals LP, Bristol-Myers Squibb Company and Genentech BioOncology.

Hardware/Software Requirements:

A high-speed Internet connection
A monitor set to 1280 x 1024 pixels or more
Internet Explorer 7 or later, Firefox 3.0 or later, Chrome, Safari 3.0 or later
Adobe Flash Player 10.2 plug-in or later
Adobe Acrobat Reader
(Optional) Sound card and speakers for audio

Last review date: November 2015

Expiration date: November 2016

Select Publications

Scott N Gettinger, MD

An open-label randomized phase III trial of BMS-936558 (nivolumab) versus docetaxel in previously treated advanced or metastatic squamous cell non-small cell lung cancer (NSCLC). NCT01642004

An open-label randomized phase III trial of BMS-936558 (nivolumab) versus docetaxel in previously treated metastatic non-squamous non-small cell lung cancer (NSCLC). NCT01673867

MDX1106-03: A phase 1b, open-label, multicenter, multidose, dose-escalation study of MDX-1106 in subjects with selected advanced or recurrent malignancies. NCT00730639

Mellman I et al. Cancer immunotherapy comes of age. *Nature* 2011;480(7378):480-9.

Paz-Ares L et al. Phase III, randomized trial (CheckMate 057) of nivolumab (NIVO) versus docetaxel (DOC) in advanced non-squamous cell (non-SQ) non-small cell lung cancer (NSCLC). *Proc ASCO* 2015;Abstract LBA109.

Spigel DR et al. A phase III study (CheckMate 017) of nivolumab (NIVO; anti-programmed death-1 [PD-1]) vs docetaxel (DOC) in previously treated advanced or metastatic squamous (SQ) cell non-small cell lung cancer (NSCLC). *Proc ASCO* 2015;Abstract 8009.

Topalian SL et al. Survival, durable tumor remission, and long-term safety in patients with advanced melanoma receiving nivolumab. *J Clin Oncol* 2014;32(10):1020-30.

David R Spigel, MD

Spigel DR et al. A phase III study (CheckMate 017) of nivolumab (NIVO; anti-programmed death-1 [PD-1]) vs docetaxel (DOC) in previously treated advanced or metastatic squamous (SQ) cell non-small cell lung cancer (NSCLC). *Proc ASCO* 2015;Abstract 8009.

Spira AI et al. Efficacy, safety and predictive biomarker results from a randomized phase II study comparing MPDL3280A vs docetaxel in 2L/3L NSCLC (POPLAR). *Proc ASCO* 2015;Abstract 8010.

Weber JS et al. Safety profile of nivolumab (NIVO) in patients (pts) with advanced melanoma (MEL): A pooled analysis. *Proc ASCO* 2015;Abstract 9018.

Wolchok JD et al. Efficacy and safety results from a phase III trial of nivolumab (NIVO) alone or combined with ipilimumab (IPI) versus IPI alone in treatment-naïve patients (pts) with advanced melanoma (MEL) (CheckMate 067). *Proc ASCO* 2015;Abstract LBA1.

Jean-Charles Soria, MD, PhD

A phase 1b study of the safety and pharmacology of MPDL3280A administered with erlotinib or alectinib in patients with advanced non-small cell lung cancer. NCT02013219

A phase I, open-label, multicentre study to assess the safety, tolerability, pharmacokinetics and preliminary anti-tumour activity of gefitinib in combination with MEDI4736 (anti PD-L1) in subjects with non-small cell lung cancer. NCT02088112

A phase Ib study of the safety and pharmacology of MPDL3280A administered with bevacizumab and/or with chemotherapy in patients with advanced solid tumors. NCT01633970

A phase III prospective double blind placebo controlled randomized study of adjuvant MEDI4736 in completely resected non-small cell lung cancer. NCT02273375

Antonia SJ et al. Nivolumab (anti-PD-1; BMS-936558, ONO-4538) in combination with platinum-based doublet chemotherapy (PT-DC) in advanced non-small cell lung cancer (NSCLC). *Proc ASCO* 2015;Abstract 8113.

Champrat S et al. Incorporating immune-checkpoint inhibitors into systemic therapy of NSCLC. *J Thorac Oncol* 2014;9(2):144-53.

CheckMate 012: A multi-arm phase I safety study of nivolumab in combination with gemcitabine/cisplatin, pemetrexed/cisplatin, carboplatin/paclitaxel, bevacizumab maintenance, erlotinib, ipilimumab or as monotherapy in subjects with stage IIIB/IV non-small cell lung cancer (NSCLC). NCT01454102

GEFTREM: Phase I, open-label, safety, tolerability and preliminary efficacy study of tremelimumab in combination with gefitinib in EGFR mutant NSCLC patients. NCT02040064

IMpower 110: A phase III, open-label, randomized study of MPDL3280A (anti-PDL1 antibody) compared with cisplatin or carboplatin + pemetrexed for PD-L1-selected chemotherapy naïve patients with IV non-squamous non-small cell lung cancer. NCT02409342

Select Publications

IMpower 130: A phase III multicenter, randomized, open-label study evaluating the efficacy and safety of MPDL3280A (anti-PD-L1 antibody) in combination with carboplatin + *nab*-paclitaxel for chemotherapy-naïve patients with stage IV non-squamous non-small cell lung cancer. [NCT02367781](#)

IMpower 150: A phase III, open-label, randomized study of 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 (NSCLC). [NCT02366143](#)

Ipilimumab plus targeted inhibitor (erlotinib or crizotinib) for EGFR or ALK mutated stage IV non-small cell lung cancer: Phase Ib with expansion cohorts. [NCT01998126](#)

Liu SV et al. Safety and efficacy of MPDL3280A (anti-PDL1) in combination with platinum-based doublet chemotherapy in patients with advanced non-small cell lung cancer (NSCLC). *Proc ASCO 2015*;Abstract 8030.

MK-3475-021/KEYNOTE-021: 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](#)

MYSTIC: 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). [NCT02453282](#)

Papadimitrakopoulou V et al. Pembrolizumab (pembro; MK-3475) plus platinum doublet chemotherapy (PDC) as front-line therapy for advanced non-small cell lung cancer (NSCLC): KEYNOTE-021 cohorts A and C. *Proc ASCO 2015*;Abstract 8031.

Patnaik A et al. Phase 1 study of pembrolizumab (pembro; MK-3475) plus ipilimumab (IPI) as second-line therapy for advanced non-small cell lung cancer (NSCLC): KEYNOTE-021 cohort D. *Proc ASCO 2015*;Abstract 8011.

Pilot study of MPDL3280A plus stereotactic ablative radiotherapy (SAR) in stage IV non-small cell lung cancer. [NCT02400814](#)

Ribas A et al. Hepatotoxicity with combination of vemurafenib and ipilimumab. *N Engl J Med* 2013;368(14):1365-6.