

Proceedings from the 11th Annual Winter Lung Cancer Conference

CME Information

TARGET AUDIENCE

This activity has been designed to meet the educational needs of medical oncologists and other healthcare providers involved in the treatment of lung cancer.

OVERVIEW OF ACTIVITY

Lung cancer is a devastating disease that accounts for approximately 13% of new cancer cases and more cancer-related deaths among both men and women than any other tumor type. In the year 2014, it is estimated that 224,210 individuals will be diagnosed and 159,260 individuals will die from the disease. The plethora of available cytotoxic chemotherapies exhibiting activity in lung cancer has increased substantially over the past several years, and development of new therapeutic strategies beyond cytotoxic chemotherapy has been the focus of extensive recent research and has led to an explosion in lung cancer genetic and biologic knowledge. The advent of these next-generation targeted treatments presents new promise of both efficacy and enhanced safety for patients with lung cancer but also challenges practicing oncologists to appropriately select individuals who may benefit from these agents and to determine how to integrate such therapies, as they become available, into standard lung cancer treatment algorithms.

This unique educational activity delivers highly applicable current clinical information delving into the personalized management of this challenging disease and provides clinicians with a concise, easy-to-understand resource to facilitate knowledge and application of optimal diagnostic and therapeutic approaches.

LEARNING OBJECTIVES

- Develop an evidence-based strategy for the treatment of localized non-small cell lung cancer (NSCLC), exploring the role of adjuvant systemic therapy.
- Apply the results of emerging clinical research to the recommendation of multimodality therapy for patients with Stage III NSCLC.
- Compare and contrast the benefits and risks of combination chemobiologic, doublet and single-agent

chemotherapy regimens when developing treatment plans for patients with advanced NSCLC.

- Use biomarkers, clinical characteristics and tumor histology to select individualized front-line and subsequent treatment approaches for patients with metastatic NSCLC.
- Identify patients with metastatic NSCLC who may experience clinical benefit from the addition of continuation or switch maintenance biologic therapy and/or chemotherapy.
- Recognize the effect of NSCLC tumor-specific mutations on relative response or resistance to treatment with tyrosine kinase inhibitors, monoclonal antibodies and other emerging molecular-targeted agents.
- Differentiate among existing and emerging molecular-targeted therapies, and effectively integrate new compounds, when available, into individualized lung cancer treatment strategies.
- Formulate management strategies for limited- or extensive-stage small cell lung cancer, considering the contributory roles of surgery, radiation therapy (local and prophylactic cranial irradiation) and chemotherapy.
- Recall the design of ongoing clinical trials evaluating novel investigational agents in lung cancer, and counsel appropriately selected patients about availability and participation.

ACCREDITATION STATEMENT

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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

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Select Publications

Keynote Lecture: Non-Small Cell Lung Cancer — Then and Now

David R Gandara, MD

Camidge D, Doebele R. **Treating ALK-positive lung cancer — Early successes and future challenges.** *Nat Rev Clin Oncol* 2012;9(5):268-77.

Doebele R et al. **Mechanisms of resistance to crizotinib in patients with ALK gene rearranged non-small cell lung cancer.** *Clin Cancer Res* 2012;8(5):1472-82.

Engelman J et al. **Mechanisms of acquired resistance to epidermal growth factor receptor tyrosine kinase inhibitors in non-small cell lung cancer.** *Clin Cancer Res* 2008;14(10):2895-9.

Gandara D et al. **Acquired resistance to targeted therapies against oncogene-driven non-small-cell lung cancer: Approach to subtyping progressive disease and clinical implications.** *Clin Lung Cancer* 2014;15(1):1-6.

Gandara D et al. **Algorithm for codevelopment of new drug-predictive biomarker combinations: Accounting for inter- and intra-patient tumor heterogeneity.** *Clin Lung Cancer* 2012;13(5):321-5.

Gandara D et al. **Evolving treatment algorithms for advanced non-small-cell lung cancer: 2009 looking toward 2012.** *Clin Cancer Res* 2009;10(6):392-4.

Govindan R et al. **Comprehensive genomic characterization of squamous cell carcinoma of the lung.** *Proc ASCO* 2012;Abstract 7006.

Li et al. **Genotyping and genomic profiling of non-small-cell lung cancer: Implications for current and future therapies.** *J Clin Oncol* 2013;31(8):1039-49.

Lindeman N et al. **Molecular testing guideline for selection of lung cancer patients for EGFR and ALK tyrosine kinase inhibitors: Guideline from the College of American Pathologists, International Association for the Study of Lung Cancer, and Association for Molecular Pathology.** *J Thorac Oncol* 2013;8(7):823-59.

Lynch TJ et al. **Activating mutations in the epidermal growth factor receptor underlying responsiveness of non-small-cell lung cancer to gefitinib.** *N Engl J Med* 2004;350(21):2129-39.

Mack P et al. **Differential activity of afatinib (AFAT), cetuximab (CET), and erlotinib (E) in a patient-derived xenograft (PDX) model of acquired E resistance.** *Proc ASCO* 2013;Abstract 8110.

Maemondo M et al. **Gefitinib or chemotherapy for non-small-cell lung cancer with mutated EGFR.** *N Engl J Med* 2010;362(25):2380-8.

Mitsudomi T et al. **Updated overall survival results of WJTOG 3405, a randomized phase III trial comparing gefitinib (G) with cisplatin plus docetaxel (CD) as the first-line treatment for patients with non-small cell lung cancer harboring mutations of the epidermal growth factor receptor (EGFR).** *Proc ASCO* 2012;Abstract 7521.

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Mok T et al. **Gefitinib or carboplatin-paclitaxel in pulmonary adenocarcinoma.** *N Engl J Med* 2009;361(10):947-57.

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Rosell R et al. **Screening for epidermal growth factor receptor mutations in lung cancer.** *N Engl J Med* 2009;361(10):958-67.

Shaw AT et al. **PROFILE 1007: Phase III study of crizotinib vs pemetrexed or docetaxel chemotherapy in advanced ALK-positive NSCLC.** *Proc ESMO* 2012. No abstract available

Yang CH et al. **LUX-Lung 3: A randomized, open-label, phase III study of afatinib versus pemetrexed and cisplatin as first-line treatment for patients with advanced adenocarcinoma of the lung harboring EGFR-activating mutations.** *Proc ASCO* 2012;Abstract LBA7500.

Zhou C et al. **Overall survival (OS) results from OPTIMAL (CTONG0802), a phase III trial of erlotinib (E) versus carboplatin plus gemcitabine (GC) as first-line treatment for Chinese patients with EGFR mutation-positive advanced non-small cell lung cancer (NSCLC).** *Proc ASCO* 2012;Abstract 7520.

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Module 1: Actionable Mutations and Genomic Alterations in Non-Small Cell Lung Cancer (NSCLC)

Mark G Kris, MD

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Yu H et al. **Analysis of tumor specimens at the time of acquired resistance to EGFR-TKI therapy in 155 patients with EGFR-mutant lung cancers.** *Clin Cancer Res* 2013;19(8):2240-7.

Lecia V Sequist, MD, MPH

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Thomas J Lynch Jr, MD

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Horn L et al. **Activity and tolerability of combined EGFR targeting with afatinib (BIBW 2992) and cetuximab in T790M+ NSCLC patients.** *Proc IASLC* 2011;Abstract O19.07.

Ohashi K et al. **Epidermal growth factor receptor tyrosine kinase inhibitor-resistant disease.** *J Clin Oncol* 2013;31(8):1070-80.

Regales L et al. **Dual targeting of EGFR can overcome a major drug resistance mutation in mouse models of EGFR mutant lung cancer.** *J Clin Invest* 2009;119(10):3000-10.

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David P Carbone, MD, PhD

Camidge D, Doebele R. **Treating ALK-positive lung cancer — Early successes and future challenges.** *Nat Rev Clin Oncol* 2012;9(5):268-77.

Camidge D et al. **Progression-free survival (PFS) from a phase I study of crizotinib (PF-02341066) in patients with ALK-positive non-small cell lung cancer (NSCLC).** *J Clin Oncol* 2011;Abstract 2501.

Doebele R et al. **Analysis of resistance mechanisms to ALK kinase inhibitors in ALK+ NSCLC patients.** *J Clin Oncol* 2012;Abstract 7504.

Gettinger S et al. **Clinical activity and safety of anti-programmed death-1 (PD-1) (BMS-936558/MDX-1106/ONO-4538) in patients (pts) with advanced non-small cell lung cancer (NSCLC).** *Proc ESMO* 2012. No abstract available

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Mehra R et al. **First-in-human phase I study of the ALK inhibitor LDK378 in advanced solid tumors.** *J Clin Oncol* 2012;Abstract 3007.

Ou S et al. **Activity of crizotinib (PF02341066), a dual mesenchymal-epithelial transition (MET) and anaplastic lymphoma kinase (ALK) inhibitor, in a non-small cell lung cancer patient with de novo MET amplification.** *J Thorac Oncol* 2011;6(5):942-6.

Ou S et al. **A comparison study of clinicopathologic characteristics of Southern California Asian American non-small cell lung cancer (NSCLC) patients by smoking status.** *J Thorac Oncol* 2010;5(2):158-68.

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Geoffrey R Oxnard, MD

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Richardson F et al. **Biomarker analysis from completely resected NSCLC patients enrolled in an adjuvant erlotinib clinical trial (RADIANT).** *J Clin Oncol* 2009;Abstract 7520.

Module 2: Practical Management of Pan-Wild-Type (PWT) Metastatic NSCLC

David R Gandara, MD

Li T et al. **Genotyping and genomic profiling of non-small-cell lung cancer: Implications for current and future therapies.** *J Clin Oncol* 2013;31(8):1039-49.

Rogerio C Lilenbaum, MD

Barlesi F et al. **Final efficacy outcomes for patients with advanced nonsquamous nonsmall cell lung cancer randomized to continuation maintenance with bevacizumab or bevacizumab plus pemetrexed after first-line bevacizumab-cisplatin-pemetrexed treatment.** *ECCO-ESMO* 2011;Abstract LBA34.

Patel JD et al. **PointBreak: A randomized phase III study of pemetrexed plus carboplatin and bevacizumab followed by maintenance pemetrexed and bevacizumab versus paclitaxel plus carboplatin and bevacizumab followed by maintenance bevacizumab in patients with stage IIIB or IV nonsquamous non-small-cell lung cancer.** *J Clin Oncol* 2013;31(34):4349-57.

Paz-Ares LG et al. **PARAMOUNT: Final overall survival results of the phase III study of maintenance pemetrexed versus placebo immediately after induction treatment with pemetrexed plus cisplatin for advanced nonsquamous non-small-cell lung cancer.** *J Clin Oncol* 2013;31(23):2895-902.

Paz-Ares L et al. **Maintenance therapy with pemetrexed plus best supportive care versus placebo plus best supportive care after induction therapy with pemetrexed plus cisplatin for advanced non-squamous non-small-cell lung cancer (PARAMOUNT): A double-blind, phase 3, randomised controlled trial.** *Lancet Oncol* 2012;13(3):247-55.

Mark A Socinski, MD

Kuenen B et al. **A phase I pharmacologic study of necitumumab (IMC-11F8), a fully human IgG 1 monoclonal antibody directed against EGFR in patients with advanced solid malignancies.** *Clin Cancer Res* 2010;2(23):1915-23.

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David P Carbone, MD, PhD

Cappuzzo F et al. **Erlotinib as maintenance treatment in advanced non-small-cell lung cancer: A multicentre, randomised, placebo-controlled phase 3 study.** *Lancet Oncol* 2010;11(6):521-9.

Carbone D et al. **Serum proteomic prediction of outcomes in advanced NSCLC patients treated with erlotinib/placebo in the NCIC clinical trials group BR.21 trial.** *J Thorac Oncol* 2010;5:S80. No abstract available.

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Zhu CQ et al; National Cancer Institute of Canada Clinical Trials Group Study BR.21. **Role of KRAS and EGFR as biomarkers of response to erlotinib in National Cancer Institute of Canada Clinical Trials Group Study BR.21.** *J Clin Oncol* 2008;26(26):4268-75.

Module 3: The Individualized Diagnosis and Treatment of Lung Cancer — Are We There Yet?

Thomas J Lynch Jr, MD

Pao W, Hutchinson K. **Chipping away at the lung cancer genome.** *Nat Med* 2012;18(3):349-51.

Mark G Kris, MD

Arcila M et al. **Prevalence, clinicopathologic associations, and molecular spectrum of ERBB2 (HER2) tyrosine kinase mutations in lung adenocarcinomas.** *Clin Cancer Res* 2012;18(18):4910-8.

Bergethon K et al. **ROS1 rearrangements define a unique molecular class of lung cancers.** *J Clin Oncol* 2012;30(8):863-70.

Cappuzzo F et al. **HER2 mutation and response to trastuzumab therapy in non-small-cell lung cancer.** *N Engl J Med* 2010;354(24):2619-21.

Drilon A et al. **Response to cabozantinib in patients with RET fusion-positive lung adenocarcinomas.** *Cancer Discov* 2013;3(6):630-5.

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Planchard D et al. **Interim results of phase II study BRF113928 of dabrafenib in BRAF V600E mutation-positive non-small cell lung cancer patients.** *Proc ASCO* 2013;Abstract 8009.

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Lecia V Sequist, MD, MPH

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Module 4: Current Controversies in the Multidisciplinary Management of Lung Cancer

Rogério C Lilenbaum, MD

Pignon JP et al. **Lung adjuvant cisplatin evaluation: A pooled analysis by the LACE Collaborative Group.** *J Clin Oncol* 2008;26(21):3552-9.

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