Mesothelioma Workshop Features Debates on Controversial Topics

On Sunday, the 3-hour Mesothelioma Workshop featured three debates dealing with some of the most controversial issues influencing treatment in mesothelioma. As mesothelioma is such a rare disease, few randomized trials are available to reference for treatment decisions and consequently, treatment decisions tend to be based on the personal experience of the treating physician instead of more objective evidence. “The goal of the workshop,” said chair Michele Carbone, MD, University of Hawaii Cancer Center, Honolulu, USA, “is to sponsor an open debate among experts in order to help develop a more widespread consensus about which therapies are more beneficial for patients at different stages of the disease.” The debates were followed by a question-and-answer format to better engage attendees.

Role and Types of Surgery

The first debate focused on a comparison of the more conservative pleurectomy and the more invasive extrapleural pneumonectomy (EPP). Raphael Bueno, MD, Harvard Medical School, Boston, USA, took the position that EPP should remain in the armamentarium of surgery for malignant pleural mesothelioma, is not inferior to pleurectomy, and that in some cases, may be superior. Moreover, Dr. Bueno argued, EPP allows for preoperative and postoperative radiotherapy, and pneumonectomy may be associated with late problems.

David Jablons, MD, University of California, San Francisco, USA, took the position that EPP should not be done for malignant pleural mesothelioma. Dr. Jablons argued that EPP is associated with a high mortality rate and that no study has shown an improvement in survival or quality of life; the findings of one randomized trial indicated worse survival with EPP compared with no operation, he said.

Immunotherapy

In a debate on the role of immunotherapy in the treatment of malignant mesothelioma, Luciano Mutti, MD, PhD, University of Salerno, University of Naples, Italy, took the position that immunotherapy may offer survival benefits for patients who do not benefit from chemotherapy and/or radiation.

In Immunotherapy, the panelists discussed the role of checkpoint inhibitors in advanced NSCLC. The debate was followed by a question-and-answer format to better engage attendees.
The treatment of pleural mesothelioma. The advantage of this type of treatment is that microscopic complete resection. The ad- microscopically residual disease after macros- copies, which are designed to eliminate mesothelioma and thymic tumors. JP van Meerbeeck, MD, PhD, University Hospital Antwerp, Belgium, notes that in malignant pleural mesothelioma, PD-L1 expression by immunohistochemistry has been reported in 20% to 70% of formalin-fixed paraffin-em- bedded mesotheliomas, in 70% of thymic carcinomas and in 23% of thymomas. He adds that the results of phase II trials involving primarily pretreated mesothelioma have been promising.

Treatment of Malignant Pleural Mesothelioma

In the Treatment of Malignant Pleural Mesothelioma session on Wednesday, Harvey Pass, MD, NYU Langone Medical Center, New York, USA, and Glen Reid, PhD, University of Sydney, Sydney, Australia will discuss biomarkers, and Marc de Perrot, MD, MSC, Toronto General Hospi- tal, Toronto, Canada, will address the role of surgery in the treatment of the disease. Dr. de Perrot notes that sur- gery should be part of a multimodality approach, whether in the adjuvant or neoadjuvant settings. “There is no role for surgery alone in mesothelioma,” he adds. He also says that radiation is playing an increasing role in the treat- ment of mesothelioma and may be an excellent option to combine with immu- notherapy.

Paul Baas, MD, PhD, Netherlands Cancer Institute, Amsterdam, The Netherlands, will address issues in induction therapy, especially for the more than 80% of patients who are ineligible for surgery. He will also discuss issues in malignant pleural mesothelioma studies, such as hetero- geneous populations, the unknown impact of post-cancer chemotherapy and the limited number of published translational studies. Of the therapy options available since 1995, Dr. Baas will focus on multimodality treatments and intraoperative chemotherapy, in particular cisplatin-based hyperther- mal lavage and the newer approach of cisplatin glue. Currently there is no standard recommendation for in- duction therapy for malignant pleural mesothelioma; however, Dr. Baas will talk about data from induction sched- ules using immunotherapy drugs that seem promising.

Arnaud Scherpereel, MD, PhD, Lille University Hospital, France, will discuss systemic therapy for inoperable disease, including the triplet cisplatin/ pemetrexed/bevacizumab as a poten- tial new first-line standard of care for patients eligible for bevacizumab and ineligible for multimodality trials. Al- though options for second-line treat- ment and beyond are currently limit- ed, exciting drugs and strategies are being evaluated in this setting and Dr. Scherpereel will discuss the need for predictive biomarkers as well as trials to determine optimal combinations with standard chemotherapy.

Michele Carbone, MD, PhD, Uni- versity of Hawaii Cancer Center, Ho- nolulu, USA, who chaired the Me- sothelioma Workshop, will discuss a mutation associated with an extremely poor prognosis, the homozy- gous germline BAP1 mutation - and its role in genetically related and spo- radic mesothelioma. He will talk about an upcoming article, which he con- cluded, that is a report on an epidemic of peritoneal mesothelioma in young women in Eastern China.

Mesothelioma Workshop

Continued from page 1

ter, UK, argued that mesothelioma is atypical: it is associated with a low mutagenic rate, suppressive Treg inflil- tration, direct tumor-derived immune suppression, poor immune-related response criteria, and lack of clinical evi- dence for response to immunotherapy. “The ugly truth,” said Dr. Mutti, “is that the more we understand the ma- lignant pleural mesothelioma biology, the more we learn that it is a kind of ‘quicky’ cancer, and we all should try our best effort to avoid the pitfall to treat it as if it was similar to all the others.” Consequently, Dr. Mutti con- cluded, caution is needed regarding administering immunotherapy for this disease.

Hedy Lee Kindler, MD, Universi- ty of Chicago, Chicago, USA, took the position that immunotherapy, in particular PD-1/PD-L1 inhibitors, is effective. She said that the results of phase II trials have shown durable tumor regression and disease stabiliza- tion in patients who were treated with tremelimumab. Additionally, Dr. Kindler noted that data from Keynote 042, a promising trial, have been con- sistent across several trials.

Induction vs. Adjuvant Chemotherapy

Wickiti T. Vigneswaran, MD, MBA, FACS, Loyola University, Chicago, USA, took the position that induc- tion chemotherapy is not better than postoperative adjuvant therapy for early-stage disease. Dr. Vigneswaran noted that neoadjuvant chemothera- py has not improved survival but has eliminated approximately 25% of el- igible patients from surgery. In addi- tion, she said that neoadjuvant therapy does not appear to improve disease-free survival and, in contrast, adjuvant therapy has been shown to improve local control.

From the point of view of Anne Tiao, MD, University of Texas M.D. Anderson Cancer Center, Houston, USA, there are both advantages and disadvantages to neoadjuvant chemo- therapy. Dr. Tiao argued that from a clinical trialist’s perspective, the neo- adjuvant setting enables study of pre- dictive biomarkers, which is crucial for advancing the field. One way this can be done is via a window of opportuni- ty trials where blood and tumor spec- imens are obtained before and after therapy. “Although,” said Dr. Tiao, “there are advantages and disadvan- tages to this type of trial, in the end, we are able to learn more about the disease and a patient’s response to sys- temic therapy.” Dr. Tiao added that we also need more general neoadjuvant studies that provide a greater bene- fit to a larger group of patients. But she admitted that currently we don’t know the optimal sequence of therapy and whether adding in immunothera- pies or novel agents is best. Dr. Tiao concluded by saying that researchers must be strategic in designing clinical trials that provide benefit to patients but which also advance our knowledge about the disease.
On the eve of the 17th WCLC, the CEO of the International Association for the Study of Lung Cancer (IASLC), Fred R. Hirsch, MD, PhD, reflected on the organization’s highlights over the past year and offered a preview of what 2017 holds for the Association.

Q: What do you think were the IASLC’s most important achievements in 2016?
A: Two big global projects were completed in 2016: the 8th edition of the TNM Classification for Lung Cancer, and the International Pathology Classifications. Both staging and pathology are very important for the planning of treatment and management of lung cancer, he said, so these efforts are definitely a highlight. (See page 5 for an article on the 8th edition of the staging system.)

Another highlight has been the work of IASLC in the area of lung cancer awareness. November is Lung Cancer Awareness Month, and traditionally many patient advocacy organizations have conducted activities in a common campaign effort, particularly in the United States. In 2017, we will expand this effort to include European and Asian organizations as well.

The IASLC has also played a role in coordinating several scientific projects, the most important of which is the Blueprint Project for immunotherapy and patient selection, which includes a unique collaboration among four pharmaceutical companies and two diagnostic companies. The goal is to better understand diagnostic assays for immunotherapy, which will hopefully lead to the eventual harmonization of these assays. It has been a big undertaking by IASLC to try to maneuver such a dedicated collaboration among strong competitors, but we have succeeded and will continue to support this effort in 2017.

Lastly, we launched IASLC Lung Cancer News in 2016. This news magazine goes out to about 20,000 people in the lung cancer community and its goal is to provide the public, patients, and investigators an update and a discussion of recent advances in lung cancer.

Q: Is there anything new or exciting in store for the Association in 2017?
A: Next year, IASLC will focus on better educational outreach on the implementation of molecular testing and new treatments. There is still a knowledge gap in some communities in the United States, and probably also in many places in Europe and Asia, about the importance of molecular testing to take advantage of specific targeted treatment options for patients with advanced non-small cell lung cancer. IASLC feels responsible to try and fill this knowledge gap, so we need to be sure that the knowledge about recent advances gets out to the places where patients live. In 2017, we will also focus on the implementation of lung cancer screening for high-risk groups and, of course, tobacco prevention and policies will be the focus of activities as well.

IASLC has grown tremendously in recent years in terms of both activities and members, and we have put on many successful scientific meetings and educational programs across the globe. I hope that as many investigators as possible from all over the world will join the IASLC family over the coming year, and together we will achieve further advances in the prevention, early detection, and management of lung cancer.

2017 Lung Cancer Meetings

17th Annual Targeted Therapies of the Treatment of Lung Cancer
February 22-25, 2017
Santa Monica, California

Small Cell Lung Cancer Workshop
March 16-17, 2017
New York City, New York

IASLC/ESMO European Lung Cancer Conference 2017
May 5-8, 2017
Geneva, Switzerland

IASLC 2017 Chicago Multidisciplinary Symposium in Thoracic Oncology
September 14-17, 2017
Chicago, Illinois

IASLC 18th World Conference on Lung Cancer (WCLC 2017)
October 15-18, 2017
Yokohama, Japan

Technologies in Thoracic Oncology Nursing

On Sunday, the International Thoracic Oncology Nursing Forum (ITONF) presented an extensive educational workshop for thoracic oncology nurses and allied health professionals who care for patients with lung cancer and mesothelioma. The workshop, titled “Improving Lung Cancer and Mesothelioma Care,” covered hot topics and advances in the ever-changing field of thoracic oncology, including immunotherapy, clinical trials, vaping and smoking cessation, and social media and e-health.

The afternoon-long workshop featured world leaders in thoracic oncology nursing from Japan, Australia, Denmark, the United Kingdom, Canada, and the United States. Participants had the opportunity to learn about state-of-the-art treatments, share practical clinical experiences with peers, participate in lively question-and-answer sessions, and develop international collaborations.

A highlight of the workshop was “Leveraging Technology and Social Media in Nursing,” presented by Anne Ireland, MSN, RN, AOCN, CENP, City of Hope National Medical Center, Duarte, USA.

The “first generation” of electronic health record (EHR) systems has been widely adopted, Ireland said, particularly in the United States and Denmark, which has the highest percentage of citizens with access to an EHR. Billions of dollars have been spent worldwide to implement these systems. Most physician practices and hospitals chose to implement a basic EHR model first and then adjusted and optimized after their systems went live, Ms. Ireland explained. As EHR systems have evolved, she said, the industry has seen improved interoperability, data sharing, health information exchange rates, and patient engagement.

However, Ms. Ireland predicted, “There are now newer social media platforms and efforts that are about to change things dramatically. … As we move into the next decade, patients’ expectations are lofty and will force the industry to change. The notion of having to go ‘see your doctor’ will be challenged and perhaps become the exception rather than the rule very soon.”

Ms. Ireland discussed specific technologies that will provide opportunities for better data collection and integration, including wearable health-tracking devices, video capabilities, and real-time communication. “Health and fitness apps have created an entirely new way of communicating between providers and patients, making remote monitoring and health promotion easier and more cost effective,” Ireland said. “The opportunity to use apps for health promotion and engagement is immense.”

Notes Achievements and Goals

Fred Hirsch, MD, PhD, CEO of IASLC

Notes Achievements and Goals
East Meets West in IASLC/Chinese Societies Joint Session

The Joint IASLC/Chinese Society for Clinical Oncology/Chinese Alliance Against Lung Cancer session, on Sunday morning brought together three speakers from China and two speakers from the West, all of whom discussed the recent developments in CURC,1,2 and current challenges and opportunities in China, with topics including precision medicine in lung cancer in China, the challenges of conducting phase I trials in the heterogeneous clinical trial environment in European countries, and drug development from a North American perspective. The goal of the session was to discuss the different situations, challenges, and potential solutions in all of the regions. The findings from several studies conducted in China were also presented.

Discovering the East: Precision Medicine in China

In China, oncologists face many challenges in the development and practice of precision medicine related to lung cancer detection and treatment. Jie Hu, MD, PhD, FCCP, Fudan University, Shanghai, discussed the challenges to determine the accurate diagnosis of lung cancer in early stages of the disease. Interestingly, the incidence of lung cancer in China seems to be independent of the exposure to the identified risk factors, and clinical trials are ongoing to identify the best populations to receive lung cancer screening, said Dr. He. New technologies under development include a combination of plasma-based biomarkers and precision imaging to accurately detect lung cancer nodules. These may also be used to find markers of relapse. Additionally, cloud-based data may be used to help improve access to care for patients in rural areas, as well as to provide physicians with real-time results.

Among the challenges in precision medicine are tumor heterogeneity and multigene monitoring. Qing Zhou, Guangdong Lung Cancer Institute, Guangzhou, said that the use of liquid biopsy rather than invasive tumor biopsy addresses some of the challenges. Dr. Zhou said that liquid plasma biopsy will be useful throughout the course of lung cancer, from screening and detection through disease management. A variety of clinical trials have shown the results of biomarker analyses, and plasma-based EGFR tests have been approved to guide treatment decisions in China, Europe, and the United States. Dr. Zhou noted that liquid biopsy can also be used to detect resistance to treatment. Additionally, this method may be useful for dynamic monitoring, although more research is necessary to determine the optimal interval for testing and how the results should influence disease management. Ongoing research on the use of liquid biopsy will likely elucidate these issues in the near future, said Dr. Zhou.

Shun Lu, Shanghai Chest Hospital, Shanghai, discussed clinical trials for EGFR T790M mutation-positive NSCLC. Shi Long, Guangdong Lung Cancer Institute, Guangzhou, said that the majority of patients in China who are diagnosed with lung cancer have late stage disease, with stage IV comprising nearly 60% of cases. A variety of potential therapeutics targets for lung cancer are under continued investigation in China, including EGFR tyrosine kinase inhibitors, ALK inhibitors, and an oral cMET inhibitor, among others. This exploration into precise medicine will lead to more accurate targeted lung cancer therapy in China.

First-line Cetirizib搭配 Chemotherapy in Patients with ALK-Rearranged NSCLC (ASCEND-4)

First-line Ceritinib Versus Chemotherapy in Patients with ALK-Rearranged NSCLC (ASCEND-4) study compares the antitumor activity of ceritinib versus chemotherapy for patients with advanced ALK-positive NSCLC. The ASCEND-4 study was a randomized, controlled trial that randomized patients with stage IV ALK-positive NSCLC to receive ceritinib or chemotherapy. The primary endpoint was progression-free survival, with secondary endpoints including objective response rate, disease control rate, and time to progression. The findings of the study, including progression-free survival (the primary endpoint) and objective response rate, disease control rate, progression-free survival, and overall survival (secondary endpoints), will be discussed.

Ganetespib, a Heat Shock Protein 90 Inhibitor, with Docetaxel versus Docetaxel Alone for Advanced NSCLC (GALAXY-2)

Ganetespib is a potent, irreversible, third-generation EGFR tyrosine kinase inhibitor that is indicated for the treatment of patients with advanced or metastatic EGFR T790M mutation-positive NSCLC. AUR3 is the first randomized, comparative phase II clinical trial of a third-generation EGFR TKI versus standard-of-care platinum-based chemotherapy. Vassiliou Papanikotakis, MD, The University of Texas MD Anderson Cancer Center, Houston, USA, will present the results of the primary end point, progression-free survival, as well as secondary endpoints that include objective response rate, duration of response, disease control rate, tumour shrinkage, and overall survival. Tetuya Mito, MD, PhD, Nagoya, Japan, will discuss the abstract.

Osimertinib vs Platinum-Pemetrexed for EGFR T790M-Positive Advanced NSCLC (AURA3)

Osimertinib is a potent, irreversible, third-generation EGFR tyrosine kinase inhibitor that is indicated for the treatment of patients with advanced or metastatic EGFR T790M mutation-positive NSCLC. AUR3 is the first randomized, comparative phase II clinical trial of a third-generation EGFR TKI versus standard-of-care platinum-based chemotherapy. Vassiliou Papanikotakis, MD, The University of Texas MD Anderson Cancer Center, Houston, USA, will present the results of the primary end point, progression-free survival, as well as secondary endpoints that include objective response rate, duration of response, disease control rate, tumour shrinkage, and overall survival. Tetuya Mito, MD, PhD, Nagoya, Japan, will discuss the abstract.

Profile of lung cancers most common-ly occurring in China is distinct from those found in Western countries, requiring distinct clinical trials. For this reason, when evaluating clinical trial evidence, it is important to know where patients were enrolled in lung cancer trials. In 2015, more than 1,000 clinical trials were conducted in China, about 80% of which investigated small-molecule drugs. Within the past 15 years, clinical trial programs have led to the development of new therapies for patients with lung cancer, prolonging overall survival from about 10 months to about 3.5 years. The majority of patients in China who are diagnosed with lung cancer have late stage disease, with stage IV comprising nearly 60% of cases. A variety of potential therapeutics targets for lung cancer are under continued investigation in China, including EGFR tyrosine kinase inhibitors, ALK inhibitors, and an oral cMET inhibitor, among others. This exploration into precise medicine will lead to more accurate targeted lung cancer therapy in China.
two sessions at this year’s WCLC provide attendees an opportunity to learn details about the updated 8th edition of the tumor, node, and metastasis (TNM) classification of lung cancer that was recently published by the Union for International Cancer Control (UICC), the American Joint Committee on Cancer (AJCC), and the International Association for the Study of Lung Cancer (IASLC) in their respective staging manuals. Implementation of the 8th edition begins on January 1, 2017.

On Monday afternoon, Ramón Rami-Porta, MD, Hospital Universitari Mutua Terrassa, University of Barcelona, Spain, Executive Editor of the updated staging manual, and Peter Goldstraw, MBCchB, FRCS, Royal Brompton Hospital and Imperial College London, UK, Executive Editor of the 7th edition, will co-chair an educational session on the newly revised staging system. On Tuesday morning, Dr. Rami-Porta will discuss the 2016 update at the beginning of the Presidential Symposium.

The updated classification represents an automatic change in therapy, if the clinical trials performed to test therapeutic options did not include the tumors that are now included in the selected stages for study. In the absence of results from clinical trials, clinical judgment will determine what the best options are for a given patient with a given tumor.
Studies Focus on Quality of Care in Lung Cancer

The results of two late-breaking abstracts related to the quality of cancer care will be presented in an oral abstract session on Tuesday. The abstracts were made available at WCLC on Sunday.

Shared Decision-Making and Patient Decision Aids

Making decisions about cancer treatments can be difficult for patients with lung cancer, and shared decision-making between the patient and physician is a desirable goal. Patient decision aids are designed to help patients become involved in their care by providing information about treatment options and associated outcomes and by clarifying personal values. In situations where one option clearly is not superior to another, patient decision aids can present risks and benefits in a simple, visual format.

In the Tuesday Oral Abstract Session, Improving the Quality of Lung Cancer Care—Patients Perspective, Laurie Gaspar, MD, MBA, FACR, University of Colorado, Aurora, USA, will present the results of a survey that examined patients’ decision-making experiences and their perceptions with regard to the usefulness of decision aids in helping them make decisions about their cancer care. Dr. Gaspar notes that of the more than 600 validated patient decision aids, fewer than 60 are designed for cancer treatment decisions, and only 10 address lung cancer diagnosis or treatment. Dr. Gaspar and her colleagues distributed the survey via SurveyMonkey to patients with lung cancer and their caregivers or significant others who had signed up for email communication from the Bonnie J. Addario Lung Cancer Foundation (ALCF), the Global Resource for Advancing Lung Cancer Education (GRACE), or the University of Colorado. The survey collected information regarding demographics, categorization of the difficult problem, and the sources of problems encountered during decision-making. A patient decision aid that discussed prophylactic cranial irradiation for limited-stage small cell lung cancer also was distributed, and respondents were asked to share their opinions about its usefulness.

Most of the 190 patients who responded to the survey said they desired shared decision-making, with only 9% expressing the desire to make the decision alone. Of 90 respondents who viewed the patient decision aid on prophylactic cranial irradiation, 61% thought that this type of decision aid would have been helpful.

The most commonly perceived difficulties were those regarding systemic therapy (58%) and diagnostics that were or were not performed (34%). The most frequent sources of difficulty were insufficient information (20%) or conflicting information or recommendations from physicians (34%).

“One of the difficulties patients face is when they have to weigh one doc-tor’s view with another,” says Dr. Gaspar. “One way to alleviate this is to use a multidisciplinary process where all doctors can discuss patient care together.”

These results show that patients with lung cancer want to participate in their care and desire tools to help them make better decisions, adds Dr. Gaspar. Clearly, improvements are needed, given that fewer than one in four patients indicated they had received sufficient information to make an informed decision.

ALCF Centers of Excellence Model

In the United States, 80% of lung cancer care is delivered in community cancer centers, which have the advantage of proximity to patients, but the disadvantage of poorer organization, fragmented care delivery, and poor oversight of quality of care, with worse-than-expected patient outcomes. Raymond Osarogiagbon, MD, Baptist Cancer Center, USA, will present the findings of a study done out of the Bonnie J. Addario Lung Cancer Foundation (ALCF) Centers of Excellence (COE) Program is stimulating community cancer centers to improve care delivery for patients with lung cancer in local settings where they choose to receive their care.

“Four out of five lung cancer patients are treated in a community hospital setting and may not receive the same level of care as those treated at a leading academic center, so, if we are going to move the needle on lung cancer care, we must do it where patients receive their care,” says Dr. Osarogiagbon.

Using a COE model that focuses on underserved areas allows physicians to diagnose lung cancer in patients early and provide treatment that is on par with lung cancer care offered at academic medical centers. The Addario COE program selects exceptional community cancer centers, studies their processes to understand best practices, and disseminates these best practices to other institutions that are encouraged to join the COE community. Currently, 13 institutions in nine US states meet the selection criteria and are enrolled in the program (Table). Dr. Osarogiagbon explains that institutions are selected based on pre-specified criteria, including integration of specific practices into routine care, such as minimally invasive staging and surgical resection technique and evidence-based decision-making platforms such as the National Comprehensive Cancer Network, College of American Pathologists, and American Society of Clinical Oncology guidelines; use of multidisciplinary teams and patient navigators to prospectively coordinate care decisions and delivery; implementation of lung cancer screening and incidental lung nodule management programs; routine use of molecular characterization and appropriately targeted therapeutics for advanced lung cancer; access to clinical trials, and patient education and empowerment programs.

The program tracks patient process data longitudinally for multiple metrics, including disease stage at diagnosis, molecular testing, tumor board review, time from diagnosis to treatment, treatment type, and clinical trial participation. Site data are analyzed across the COE community and against comparator groups to demonstrate impact of the program.

“Outcomes of lung cancer care in community-level cancer centers can be significantly improved, often to the level of results achieved in more selective, less-accessible academic institutions,” Dr. Osarogiagbon notes.

The COE program is structured for rapid further expansion, adds Dr. Osarogiagbon, as additional institutions make a commitment to program implementation and the mandatory data collection and monitoring regimen.

“This patient-focused approach provides a new mechanism by which we can increase the use of high-value practices such as routine molecular testing, early detection, and optimal treatment selection, and effectively remove barriers to high-quality care.”

Table. Bonnie J. Addario Lung Cancer Foundation Centers of Excellence

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International Mentorship Program Fosters Exchange of Expertise

The IASLC International Mentorship Program was established to provide professional development and education for early-career physicians who are studying thoracic malignancies. “The idea is to bring young lung cancer investigators, particularly from developing countries, to a mentored program at the WCLC and let them spend time after the conference at the assigned mentor’s host institution,” says Fred R. Hirsch, MD, PhD, IASLC CEO. The program was well received this year, with more than 40 applicants from all over the world. Candidates who apply to the Mentorship Program must submit an abstract for presentation at the WCLC and provide a personal statement on their goals and how the award will help them.

The IASLC Fellowships Committee reviewed applications and selected 32 early-career researchers from 15 different countries, primarily China and India. The awardees will meet daily with their assigned mentor during the conference to discuss relevant presentations and scientific achievements. The week following the conference, the mentees will work with their mentors at various cancer institutions across Europe and in Israel. IASLC is grateful for the IASLC members who agreed to be mentors. Robert Pirker, MD, Medical University of Vienna, Austria, says he volunteered to be a mentor this year because he wants to promote the global exchange of expertise. “I also want to meet young doctors who will become leading lung cancer experts in the future,” he adds.

The International Mentorship Award winners will receive their award during the IASLC Business meeting on Tuesday, 14:30-15:00 (Schubert 2, Level One). IASLC thanks Janssen Oncology, IMS, MSD (Merck), and AstraZeneca for their support of the International Mentorship Program.

Mentor: Fabrice Barlesi, Hospital NordChamin des Boursely, France
Silvia Josefina Ayala Leon
National Cancer Institute Prof. Manuel Riveros, Paraguay
Predictor Variables to ECOG Scale of Performance Status in Lung Cancer at a Developing Country in Latin America Mentor: Jan van Maelebeek, University Hospital Antwerp, Belgium
Chanchai Charopongpunthorn Ramathibodi Hospital, Thailand Sequence of EGFR-TKI Therapy and BIM Deletion Polymorphism Affect the Outcome of Treatment in EGFR Positive NSCLC Mentor: Rafael Rosell, Garramas Tiras i Pujol Health Sciences Institute and Hospital, Spain
Fábio Chaves University of Algarve, Portugal Comparative Outcome Assessment of EGFR TKIs for the Treatment of Advanced Non-Small-Cell Lung Cancer: A Network Meta-Analysis Mentor: Lucio Cirino, University Hospital of Parma, Italy
Kezhong Chen Peking University People’s Hospital, China Identifying Genomic Alteration and Inter-Tumor Heterogeneity of Multiple Primary Lung Cancers by Targeted NGS of Tumor Tissue and ctDNA Mentor: Mark Krankin, Rigshospitalet, Denmark
May Myat Cho Southeast Asia Tobacco Control Alliance, Thailand Make the World Beautiful and Healthy by Making Your Country Smoke Free: Case Study between Iceland and Thailand? Mentor: Robert Pecker, Medical University of Vienna, Austria
Paola de la Iglesia Hospital Italiano de Buenos Aires, Argentina Identifying Genomic Alteration and Inter-Tumor Heterogeneity of Multiple Primary Lung Cancers by Targeted NGS of Tumor Tissue and ctDNA Mentor: Mark Krankin, Rigshospitalet, Denmark
Shaodong Hong Sun Yat-sen University Cancer Center, China Pooled Analysis of the Incidence and Risk of Treatment-Related Pneumonitis with Anti-PD-1/PD-L1 Therapies in Lung Cancer Patients Mentor: Paul van Schil, University Hospital Antwerp, Belgium
Deepali Jain All India Institute of Medical Sciences, India Detection of Oncogenic Drivers in Pleural Effusions and Archived FNA Smears of Pulmonary Adenocarcinoma Mentor: Lukas Bubendorf, Institute for Pathology, Switzerland
Ashish Jakheta All India Institute of Medical Sciences, India Recurrence Patterns in Lung Cancer Patients Treated with Protocol Based Multimodality Treatment at a Tertiary Care Cancer Center in India Mentor: Walter Wieder, Universitaetsklinik Zürich, Switzerland
Milica Kontic Centre of Radiology of Serbia, Serbia Averaged Promoter Methylation of ESRI and CDH13 Gene Are an Independent Prognostic Marker in Surgically Resected Non-Small Cell Lung Cancer Mentor: Nicola Girard, Lyon University Hospital, France
Tomi Kovacevic Institute for Pulmonary Diseases of Vojvodina, Faculty of Medicine, University of Novi Sad, Serbia Importance of Assessment of Malnutrition Risk in Lung Cancer Patients Mentor: Johan Vansteenkiste, University Hospitals KU Leuven, Belgium
Vinaya Kumar Jr. JRC, All India institute of Medical Sciences, India Mediastinal Lymph Nodes Staging by PET CT for Resectable Non-Small Cell Lung Cancer in a Tuberculosis Endemic Country Mentor: Wilfried Eberhardt, University Hospital Essen, Germany
Delfin Lovelina Francis Tagore Dental College and Hospital, India A Cross-Sectional Study on Tobacco Consumption Pattern among Auto Rickshaw Drivers in Chennai City, Tamil Nadu, India Mentor: Ola Lujafi, University of Gdansk, Poland
Rosa Luz Luna Palencia Instituto Nacional de Cancerologia, Mexico Radical Treatment of Synchronous Oligometastatic Non-Small Cell Lung Cancer (NSCLC) Mentor: Jack Easson, Medical University of Galapal, Denmark
Jose Nicolas Minnata Hospital Italiano, Argentina NSCLC with Detectable EGFR Mutation: Institutional Experience Mentor: James Spicer, King’s College London, UK
Xiaomin Niu Shanghai Chest Hospital, Shanghai Jiao Tong University, China see Mentorship Program, page 9
Biomarkers to Select Patients for Systemic Therapy

A session Tuesday afternoon will focus on the use of biomarkers to better select patients with NSCLC for systemic therapy. The topics covered will be tumor heterogeneity, use of patient-derived xenografts to guide therapy, and predictive biomarkers for chemotherapy and immune checkpoint inhibitors, as well as the emerging role of liquid biopsies in NSCLC. The session is co-chaired by Keith Kerr, BSc, MB ChB, FRCPATH, FRCP, Aberdeen University Medical School, Scotland, UK, and Tenuya Mitsudomi, MD, PhD, Aichi Cancer Center Hospital, Nagoya, Japan.

Whole-genome sequencing has shown that cancer is genetically heterogeneous. This tumor heterogeneity has an impact on predictive biomarkers and treatment, says Yasushi Yatabe, MD, PhD, Aichi Cancer Center Hospital, Nagoya, Japan. “Dramatic responses cannot be expected when therapy targets gene mutations that are sometimes found in only part of a tumor,” he adds. In his presentation, Dr. Yatabe will talk about the distribution of targeted alterations within the tumor acting as a clue for predicting response. “Early involvement during cancer development makes driver mutations distributed uniformly throughout the tumor, and consequently, therapies targeting these mutations have been shown to eliminate cancer,” he says.

Byoung Chul Cho, MD, PhD, Yonsei Cancer Center, South Korea, will focus on the development and characterization of patient-derived tumor xenograft (PDX) models. PDX models have been shown to reflect principal histologic and genetic characteristics of original patient tumors and retain tumor heterogeneity better than other preclinical models. Consequently, these models have been shown to be predictive of clinical outcomes and are used for translational research, preclinical drug screening, and biomarker identification and validation. Dr. Cho’s talk will also cover the use of the PDX model in the application of the ‘co-clinical trial’ approach, in which the PDX model is developed from a patient enrolled in a clinical trial and treated with the same experimental agents to emulate clinical response. “This strategy provides an interesting platform to investigate resistance mechanisms, predictive biomarkers and novel combination strategies in a real-time manner,” Dr. Cho says.

Biomarkers to aid in the selection of patients with NSCLC for chemotherapy are of major clinical relevance, says Martin Filipits, MD, PhD, Medical University of Vienna, Austria. In his presentation, Dr. Filipits will discuss the prognostic and/or predictive value of key factors of DNA repair, signal transduction, and the cell cycle that have been studied within the IALT-Bio program and validated in the IALT-Bio program for early-stage NSCLC. He will also address the potential of KRAS and p53 mutations, multigene signatures, or tumor-infiltrating lymphocytes as predictive biomarkers, as well as the current lack of a validated clinically relevant predictive biomarker.

The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard. The approval of anti-programmed death receptor (PD-)1 therapies for NSCLC has drawn attention to programmed death ligand-1 (PD-L1) immunohistochemistry (IHC) as the current standard.
Predictive Biomarkers
Continued from page 9

latest predictive biomarker potentially required in this setting, PD-L1 IHC as a predictive assay for selecting patients for anti-PD-1 or anti-PD-L1 therapy is becoming more prevalent and complex. Fred R. Hirsch, MD, PhD, University of Colorado Denver, Aurora, USA, will discuss the advantages and challenges of biomarkers for these inhibitors.

Also discussed in the session will be liquid biopsies. The most common application of this minimally invasive approach is the detection of cell-free DNA shed from tumors into peripheral circulation, says Phillip Mack, PhD, UC Davis Comprehensive Cancer Center, Sacramento, USA. “Biomarker assays used for this purpose must be optimized to enhance sensitivity without compromising specificity,” Dr. Mack explains. He will discuss several assays, including next-generation sequencing, that have undergone sufficient validation and optimization for routine clinical use. ●

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IASLC 2017 CHICAGO MULTIDISCIPLINARY SYMPOSIUM IN THORACIC ONCOLOGY

The Challenge of Palliative Care around the Globe

Guidelines and active research in palliative care are making this area of clinical oncology both authoritative and rapidly progressing. However, palliative care remains a complex issue, and its use varies in different regions of the world, especially in areas where access to health care is limited. The global challenges of palliative care in lung cancer is the focus of an educational session on Monday morning. The discussion will center on palliative care in different parts of the world, including Southeast Asia, India, Iran, and South America.

Jeffery Crawford, MD, Duke Cancer Institute, Durham, USA, and Prof. Jean Klafzszky, Institut Jules Bordet, Brussels, Belgium, are co-chairs of the session. Both oncologists have been at the forefront of palliative care for several years. The session will open with a discussion of a possible consensus on the global importance of supportive and palliative care for all patients with cancer and the aim of broader implementation. “Data management guidelines tailored to the needs of the population in specific regions,” says Crawford, will be provided. “The WHO public health model of palliative care, the challenges faced in the development of palliative care in Southeast Asia, development strategies from experiences in Malaysia, and the role of the Asia Pacific Hospice Network and LIEN Collaborative for Palliative Care.”

Goury Shankar Bhattacharya, MD, Fortis Hospital, Calcutta, India, will address the factors associated with poor palliative care in India, including inadequate training of health care personnel in symptom management and other palliative care skills, and lack of investment in this area. Dr. Bhattacharya will discuss possible solutions, including change at the system level as well as steps the health care community can take to improve the situation.

Reza Malayeri, MD, Firozgar Hospital, Tehran, Iran, will talk about Iranian-specific needs for improving palliative care and provide demographics of the patients from his hospital over the last 2 years.

Luis Alberto Mas Lopez, MD, Instituto Nacional de Enfermedades Neoplasicas, Lima, Peru, will discuss the challenges of palliative care in South America. ●

The JTO maintains a diary of readers looking for. “As we take advantage of Elsevier’s industry-leading technological resources, these enhancements will help make JTO the leading journal in thoracic oncology,” says Dr. Adjei, MD. “It’s a very exciting time as we plan the future growth of the journal.”

WCLC delegates can meet Dr. Adjei and learn more about the journal at Meet the JTO Editor, held today, 14:30-15:15 (Schubert 4). ●

The Journal of Thoracic Oncology (JTO) is the flagship peer-reviewed journal, has successfully finished its first year of publication with Elsevier, a leading scientific and medical publisher. The future of this collaboration offers many opportunities for authors and readers, says Alex A. Adjei, MD, PhD, Editor-in-Chief. This year, JTO saw an 11% increase in submissions compared with 2015. This increase is, in part, related to a rapid review time. The JTO maintains a turnaround time of fewer than 10 days, and articles are published online within 3–5 days after acceptance. Articles of high scientific interest receive fast-track designation, are reviewed within 48 hours, and are published online within 3–5 days.

Enhancements to the journal over the past year include audiovisual presentations created by authors, which will be published soon; expansion of the journal with Korean, French, and Italian editions of the JTO; and the offering of continuing medical education (CME) credits for manuscript reviewers. Beginning with the January 2017 issue, readers of JTO will also have an opportunity to obtain CME credits, as one article per issue will be designated for a CME activity.

In the coming year, the journal expects to take advantage of enhancements offered by Elsevier, such as Virtual Microscope and Interactive Pathway Viewer. The Virtual Microscope, a browser-based tool, lets authors complement conventional images captured by slide scanners, optical microscopes, and other devices with large high-resolution equivalents. Each article that has a pathway file is processed automatically with use of MedScan for proteins, genes, chemical compounds, etc. This information is converted into pathway diagrams based on their relationships. The application provides readers with a visual summary of the proteins, genes, chemical compounds, and the relationships between them, helping readers to assess quickly whether the article contains the subjects they are looking for.

“With the introduction of Palliative care: A Global Challenge Monday, 11:00-12:30 | Strauss 3 Palliative Care in Lung Cancer: A Global Challenge
T

ese updates follow those in-
cluded in the Sunday issue.

Mesothelioma Task Force
Chair: Michele Carbone, MD, PhD
Established in January 2016, the Mesothelioma Task Force is com-
posed of 26 members from around the world who represent expertise in me-

Ammonia as well as gaps that need to be addressed with additional educational offerings. To access the survey, please contact membership@ iasl.org, or visit www.iaslc.org.

Patient Advocates Committee
Chair: Glenda Colburn
The Patient Advocates Committee is made up of advocates from several
advocacy organizations and lung cancer survivors around the world. The Committee aims to address the informational needs of the public and patient advocates regarding the communication and exchange about issues of importance to the public in thoracic oncology and serves as a liaison between IASLC and patient advocacy organizations, individual advocates, and survivors around the world. The Committee addresses the educational and related needs of the public as an important constituency in the work of the Association. The Committee also provides information and recommendations to the Board so that the activities of IASLC con-
form to the needs of people with lung cancer.

Primary activities of the Commit-
tee focus on the WCLC and other IASLC educational meetings. Com-
mittee members are often faculty for the WCLC and other regional meet-
ings. Since the Committee’s recom-
mendation in 2011 to provide travel scholarships for the WCLC, IASLC has offered funding to 21 patient ad-
vocates in lung cancer and mesotheli-
a, many of whom are lung cancer survivors.

Several advocates also serve on other IASLC committees to ensure that the voice of the patient is recognized. The Committee has been heavily involved in the Lung Cancer Awareness Month harmonized strategy for November 2016, which was led by IASLC. This initiative has involved collaboration with 20 advocacy organizations in the United States and Europe. The effort produced a website, www.LCAM.org, and a public awareness campaign that reached more than three million peo-
ple to raise awareness about advance-
ces in lung cancer and renewed hope for patients from new research and progress in lung cancer. In 2017, the Committee will focus on developing a strategic plan and budget to support educational needs of patients and prov-
iders.
## Schedule at a Glance: Tuesday

### 7:30 – 8:30

**WCLC 2016 SCIENTIFIC HIGHLIGHTS**
- SH03: Surgery and Early Stage NSCLC I – III
  - C1
- SH04: Screening, Radiology, Staging, Pulmonology
  - C7

### 8:35-10:25

**PRESIDENTIAL SYMPOSIUM**
- Hall D (Plenary Hall)

### 11:00-12:30

**EDUCATIONAL SESSION**
- ED07: Classification and Druggable Targets of Thoracic Tumors
  - C1
- **SCIENCE SESSIONS**
  - SC13: Interaction of COPD and Lung Cancer – Consequences for Early Diagnosis and Management
    - Stolz 1
  - SC14: Immunotherapy of NSCLC
    - C2
  - SC15: Clinical Trials: How to set Priorities?
    - C8

### 12:30-13:00

**INTERACTIVE SESSIONS (TICKETED)**
- IA05: The Practical Use of the TNM Classifications for Thoracic Cancers
  - C7
- IA06: Interactive Session Staging Group II
  - Schubert 3

### 14:00-15:30

#### PATIENT ADVOCACY SESSION
- NU03: Supporting Patients Receiving Treatment
  - Schubert 5

#### SCIENCE SESSIONS
- OA13: Immunotherapy in Malignant Pleural Mesothelioma: Current Status of Trials and New Approaches
  - Stolz 1
- MA09: Immunotherapy Combinations
  - Strauss 2
- MA10: Facing the Real World: New Staging System and Response Evaluation in Immunotherapy
  - Stolz 2
- MA11: Novel Approaches in SCLC and Neuroendocrine Tumors
  - Strauss 3
- MA12: Miscellaneous Biology/Pathology
  - Schubert 1

### 15:30-17:00

#### PATIENT ADVOCACY SESSION
- PA03: Patient Support and Involvement in Research
  - Schubert 6

#### SCIENCE SESSIONS
- OA09: Locally Advanced NSCLC: Innovative Treatment Strategies
  - Strauss 3
- OA10: EGFR Mutations
  - Strauss 1
- OA11: Angiogenesis in Advanced Lung Cancer
  - Stolz 2
- OA12: SBRT and Other Issues in Early Stage NSCLC
  - Stolz 2
- MA07: ALK-ROS1 in Advanced NSCLC
  - Lehar 1-2
- MA08: Treatment Monitoring in Advanced NSCLC
  - Lehar 3-4
- OA13: Immunotherapy in Malignant Pleural Mesothelioma: Current Status of Trials and New Approaches
  - Stolz 1
- MA09: Immunotherapy Combinations
  - Strauss 2
- MA10: Facing the Real World: New Staging System and Response Evaluation in Immunotherapy
  - Stolz 2
- MA11: Novel Approaches in SCLC and Neuroendocrine Tumors
  - Strauss 3
- MA12: Miscellaneous Biology/Pathology
  - Schubert 1

### 17:00-19:00

#### INTERACTIVE SESSIONS (TICKETED)
- IA07: Interactive Session Target Delineation: Group II
  - Schubert 3
- IA08: Tobacco & Youth
  - C2

#### SCIENCE SESSIONS
- SC17: Lung Cancer: A Global Cancer with Different Regional Challenges
  - Lehar 1-2
- PC02: By 2030 Chemotherapy will Remain Standard of Care for the Majority of Patients with NSCLC Stages I-IV
  - C7
- PC03: How to Implement SBRT and Other Issues in Early Stage NSCLC
  - Stolz 2
- PC04: New Staging System and Response Evaluation in Immunotherapy
  - Stolz 2
- SC18: Precision Screening for Lung Cancer
  - Lehar 1-2
- SC19: Interventional Pulmonology in Diagnosis and Treatment of Thoracic Malignancies
  - Lehar 3-4
- SC20: Small is Beautiful: Impact of Surgical Approach
  - Strauss 1
- SC21: Predictive Biomarkers for Outcome of Systemic Therapy in NSCLC
  - Strauss 7
- SC22: Selection and Monitoring of Patients for Immune Checkpoint Inhibitors
  - C8
- SC23: The Importance of Co-Operative Groups
  - Strauss 3

### 19:00-20:00

**PRO-CON**
- PC02: By 2030 Chemotherapy will Remain Standard of Care for the Majority of Patients with NSCLC Stages I-IV
  - C7
T horacic oncology nurses face very different challenges depending on the treatment being administered to their patients. On Tuesday, nurse experts will discuss the divergent side-effect profiles and nursing responsibilities with two important regimens: tyrosine kinase inhibitors (TKIs) and immunotherapy.

Managing Toxicity
Tuesday, 14:30-15:45 | Schubert 5

Although nurses now have more than 10 years of experience with TKIs, presenter Beth Eaby-Sandy, CRNP, University of Pennsylvania, Philadelphia, USA, will explain why toxicities can still be very difficult to grade and manage. In particular, she will discuss rashes and other cutaneous toxicities associated with epidermal growth factor receptor (EGFR) inhibition, including paronychia, hypertrichosis, trichomegaly, fissuring, pruritis, and xerosis.

Rashes associated with EGFR inhibition can be severe and can affect patients’ quality of life, have an impact on activities of daily living, and even cause dose reductions, Ms. Eaby-Sandy says. However, despite the challenges, it is imperative for nurses to manage rashes and keep patients on therapy because of a correlation between the side effect and overall survival. "Identification, prevention, and management are important tasks for oncology nurses to master to allow patients to remain on therapy," she says.

Ms. Eaby-Sandy will review consensus guidelines for these toxicities, as well as the importance of tailoring management strategies to a patient’s symptoms, side effects, specific drug, and dosage.

In addition, she will highlight other classes of TKIs approved for use in lung cancer and their different, yet significant side effects, as well as TKIs in development.

In contrast to TKIs and associated side effects, immunotherapy appears to have limited toxicity. Rachel Thomas, lung cancer clinical nurse specialist at Guy’s and St. Thomas’ National Health Service (NHS) Trust, UK, will present case studies of immunotherapy in lung cancer.

“In my experience, patients receiving immunotherapy experience minimal side effects and cope with the treatment very well. They often report improvement in quality of life and a return to how they were before diagnosis,” Ms. Thomas says. Her patients have reported occasional and manageable nausea, foot neuropathy, shortness of breath, leg cramps, and fatigue. However, as Ms. Thomas will explain, immunotherapy presents unique nursing challenges. Because the therapies are new and expensive, access is limited. Often, patients can receive this treatment only through clinical trials or special programs offered by pharmaceutical companies.

An additional challenge: although clinical trial data demonstrate that patients receiving immunotherapy have better overall survival and outcomes, patients receiving immunotherapy have better overall survival and outcomes, Ms. Thomas has seen a mixed response to treatment. “There have been many stories in the newspapers which report that immuno-oncology drugs are a miracle treatment for patients with lung cancer. This can often give patients false hope and can lead to distress when they find they are not eligible for the treatment or when the treatment is not effective,” Ms. Thomas says. “Part of our role is to ensure patients are well informed but have reasonable expectations of the outcomes of treatments.”

The session will be chaired by Mary Hesdorffer of the Mesothelioma Applied Research Foundation and Marianne Davies of Yale Cancer Center, both in the United States.

Thoracic Oncology Nursing
Continued from page 3

Challenges for Immunotherapy
• “Managing Lung Cancer as a Chronic Disease”
• “Vaping—A Good Smoking Cessation Tool?”

ITONF recorded the entire workshop and will upload it onto its website (http://itonf.com/). The organization welcomes health care providers to view the content, share it with colleagues, and join ITONF’s efforts to educate and support thoracic oncology nurses around the world.

Avastin®
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Indications
1. In combination with Tarceva, Avastin is indicated as initial treatment of adult patients with metastatic colon or rectal cancer who have tumors with microsatellite instability-high (MSI-H) or MSI, colorectal cancer with MSI-H and metastatic colorectal cancer with Her2-negative disease.
2. In combination with chemotherapy for patients with metastatic non-squamous cell non-small cell lung cancer with EGFR mutation positive.
3. In combination with chemotherapy for patients with recurrent glioblastoma.

Dosage
Two doses: 10 mg/kg IV every 2 weeks or 4 mg/kg IV every 3 weeks.

Contraindications
Hypersensitivity to Avastin or components of Avastin.

Warnings
Hypersensitivity Reactions: Discontinue if anaphylaxis or severe reactions occur. The most common adverse reactions are infusion reactions, anemia, hypertension, thrombosis, and bronchospasm.

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Joint Session
Continued from page 4

and optimizing study results and the next few years should be an exciting time in biomarker research, Dr. Rolfo said, particularly for new combinations with immunotherapy drugs.

Dr. Rolfo also discussed problems facing Europe with respect to early clinical trials, including the relatively small research and development expenditure by pharmaceutical companies in Europe, compared with later-phase clinical trials and that in the United States. Although the majority of research is still performed in the West, other countries are becoming more attractive for conducting clinical trials, in part because of better recruitment rates. Recruitment in the West could be improved, Dr. Rolfo said, by making sure the public is more informed about the drug development process via an experienced and dedicated study team, by using a molecular tumor board to select patients, and by forming and maintaining a close and empathetic doctor-patient relationship.

Another problem related to clinical trials in Europe is the heterogeneity of clinical trial environments and consequently, Dr. Rolfo said, harmonization across all EU countries is necessary. He talked about the new extensive regulation from the EU parliament as well as the Council on Clinical Trials on Medicinal Products for Human Use, which should help to address this problem, providing benefits such as streamlining the process for studies performed in multiple member states. The European Society for Medical Oncology and the European Organization for the Research and Treatment of Cancer have also published a position paper which helps the different stakeholders adapt to this new harmonization procedure and a scheme launched by the European Medicines Agency called PRIME aims to improve development of medicines that target an unmet medical need.

Dr. Rolfo concluded by saying “...there is a new competitive world coming...but there are some strategies we can implement, such as more transparency and a molecular approach.” He added, “Harmonization will be a reality in the new year, and this will address some of the difficulties we face within Europe. But education and networking for your patients are also crucial for successful drug development in clinical trials.”

Paul A. Bunn Jr., MD, University of Colorado, Aurora, USA, provided a North American perspective on precision medicine and discussed the importance of biomarkers in the context of clinical trials.

In 2015, more than 1,000 clinical trials were conducted in China, about 80% of which investigated small-molecule drugs.


Multifocal Lung Cancer: A Multifaceted Problem

The invited session, Multifocal Lung Cancer will address several issues of the disease, including the pathologic differential diagnosis of multiple primary lung cancers versus metastases; surgical choices for patients with multifocal lung cancer; and surgery for ground glass opacity, including sublobar resection.

Many commonly used characteristics in diagnosis of synchronous multiple lung tumors are inadequate. Erik Thunnissen, MD, PhD, Vrije Universiteit, Amsterdam, The Netherlands, will make the argument that when comparing two tumors, differences in morphology can be conclusive for second primary tumors but this is not sufficient for lineage analysis. Adding clinical context can provide interesting perspectives but these are associated with limitations. Therefore in order to avoid misclassification, careful review by a multidisciplinary tumor board, taking into account all available information, is needed.

Currently surgeons must integrate many factors when operating on multifocal lung cancer. Scott Swanson, MD, Brigham's and Women's Hospital, Boston, USA, will discuss various approaches in this area, including factors that need to be taken into account prior to surgery, such as obtaining a preoperative diagnosis if the surgery will be particularly challenging. Dr. Swanson will also discuss the types of surgery that are optimal for a particular lesion or lesions and the role of adjuvant therapy.

Shun-ichi Watanabe, MD, National Cancer Center Hospital, Tokyo, Japan, will talk about the present way of managing pulmonary small nodules in Japan based on the results of observed natural history of subsolid nodules. Dr. Watanabe will also talk about the correlation between consolidation and tumor diameter (C:T) ratio on computed tomography and pathologic findings in stage I adenocarcinomas. He will also provide details on three ongoing Japanese clinical trials regarding sublobar resection for subsolid nodules.

Alper Toker, Istanbul University Istanbul Medical School, Turkey, will conclude the session with an interactive presentation of clinical cases of multifocal lung cancer.
Is this your first IASLC meeting? If yes, what prompted you to attend? If no, what keeps you coming back?

“'Yes, this is my first time. I came to the meeting because it is important for my career and to know the new developments in lung cancer.'
Antonio Vega, MD, Löwenstein Clinic, Stuttgart, Germany

“'Yes, my field of study/work is lung pathology, and this meeting is a great opportunity to learn and hear sessions from the most famous lung cancer doctors and researchers from around the world.'
Daniela Xhemalaj, MD, PhD, Mother Theresa University Hospital Center, Tirana, Albania

“'No, this is not my first time at the meeting. I am involved as a speaker on a committee. I keep coming back for the exchange of ideas and experience with colleagues, as well as to meet new people in the field.'
Cesare Gridelli, MD, S. G. Moscati Hospital, Avellino, Italy

“'Yes, I do lung cancer research in China and have been to other cancer-related meetings, but not one that specializes in lung cancer. There are many experts here who do clinical research in China. It's exciting to be here, I'm glad I came.'
Shell Li, MD, MS, China

“'Yes, I work in lung cancer, so it is great a great meeting for me to come, to learn the latest breaking news. I am interested in learning about early detection of lung cancer.'
Hemant Roy, MD, Boston University School of Medicine, Boston, USA

“'I'm a veteran. I think this will at least be my fifth conference. I come for the people. The scientific value of the meeting is strong and it is very focused on lung cancer and I work specifically in thoracic oncology and for me this is my big go-to meeting of the year. This for me trumps ASCO.'
Mark Ball, Macclesfield, UK

“'Yes it is my first time. I am here because I am presenting a poster. Previously I worked in other areas of cancer, but now I work in lung cancer.'
Jordi Codony, Barcelona, Spain

“'I've not been here before. I was actually an invited presenter for the nursing forum.'
Anne Ireland, Duarte, USA

“'This is my second time attending. They liked me enough to ask me to come back. So I have a couple of posters to present tomorrow.'
Nicholas Farris, Memphis, USA
Join us at the IASLC Booth in the Exhibit Hall

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