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CITINGS

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Pre-ASH Highlights

The International Myeloma Foundation (IMF) *presents this special edition of CITINGS, our premiere publication featuring the most up-to-date information on multiple myeloma (MM) treatment and diagnostics. This edition highlights presentations that will be made at the 53rd annual meeting of the American Society of Hematology (ASH), held December 10–13, 2011.*

For your convenience, and to help you better navigate the conference, we have listed below, in chronological order, oral and/or poster presentations relevant to MM and related pathologies.

It is our hope that CITINGS will help keep you abreast of the latest developments in MM treatment. As always, we welcome your feedback. Feel free to contact the IMF at 800-452-CURE (2873) or TheIMF@myeloma.org, or via myeloma.org.

– Susie Novis, President, IMF

SATURDAY, DECEMBER 10TH

Many and Multiple Myelomas: Making More Out of the Molecular Mayhem

P. Leif Bergsagel.

Session: Laboratory Medicine: Genetics of Lymphoid Neoplasms: What You Need To Know For Your Current (and Future) Daily Clinical Practice

Time: 7:30 AM-9:00 AM **Location: Room 20AB**

No abstract available.

Post-Transplant Maintenance Therapy in Myeloma/Optimal Frontline Therapy Program: Education Program

Donna E. Reece.

Session: Controversies and Updates in Multiple Myeloma

Time: 7:30 AM-9:00 AM **Location: Hall AB**

No abstract available.

Final Analysis of MELISSE, a Large Multicentre Observational Study to Determine Risk Factors of Venous Thromboembolism in Patients with Multiple Myeloma Treated with Immunomodulator Drugs

Xavier Leleu, Laurent Daley, Philippe Rodon, Cyrille Hulin, Charles Dauriac, Hacini Hacini, Olivier Decaux, Jean-Claude Eisemann, Olivier Fitoussi, Laurent Voillat, Borhane Slama, Ahmad Al Jijakli, Carinne Chaleteix, Régis Costello, Anne Lamblin, Patrick Natta, Jean Paul Fermand, and Philippe Moreau.

Oral and Poster Abstracts: Pathophysiology of Thrombosis: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1235 **Session: 331**

The authors present the final analysis of MELISSE, with updated results at one year, which further demonstrates that thromboembolic event prophylaxis is required for MM treated with IMiDs-based therapy.

There is a slight increase risk of venous thromboembolic events (VTE)/pulmonary events with the use of aspirin as compared to low molecular weight heparin (LMWH), but a significant increase in bleeding events. Although, for the first time, the authors have identified risk factors of VTE in MM treated with IMiDs, they could not identify VTE risk factors to guide investigators between LMWH and aspirin-based prophylaxis; the optimal dose and duration of LMWH remain to be determined.

Prognostic Significance of the Number of Focal Lesions in Whole Body Magnetic Resonance Imaging Before and After Autologous Stem Cell Transplantation

Jens Hillengass, Sofia Ayyaz, Kerstin Kilk, Marc André Weber, Thomas Hielscher, Hans-Ulrich Kauczor, Stefan Delorme, Anthony D. Ho, Hartmut Goldschmidt, and Kai Neben.

Oral and Poster Abstracts: Myeloma – Biology and Pathophysiology, excluding Therapy: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**
Abstract No.: 1812 **Session: 651**

Gene Mutations Detected by Whole-Exome Sequencing and Recurrent Cytogenetic Abnormalities Are Independent Events in Multiple Myeloma

Hervé Avet-Loiseau, Graham R. Bignell, Cheng Li, Florence Magrangeas, Thierry Facon, Michel Attal, Kenneth C. Anderson, Peter Campbell, Stephane Minvielle, Nikhil C. Munshi, and Andrew Futreal.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**
Abstract No.: 1816 **Session: 651**

Bortezomib- and Thalidomide-Induced Peripheral Neuropathy in Multiple Myeloma: Clinical and Molecular Analysis of 474 Patients Treated with Thalidomide-Dexamethasone (TD) or Bortezomib-TD (VTD)

Paola Tacchetti, Carolina Terragna, Gioacchino Catania, Magda Marcatti, Andrea Nozza, Felicetto Ferrara, Francesco Nobile, Catello Califano, Anna Baraldi, Andrea Gallamini, Pellegrino Musto, Patrizia Tosi, Piero Galieni, Annalisa Pezzi, Statistician, Francesco Lanza, Michela Ceccolini, Filippo Ballerini, Lucio Catalano, Clotilde Cangialosi, Antonio Lazzaro, Giorgio Paladini, Ruggero Mozzana, Beatrice Anna Zannetti, Graziella Pinotti, Francesca Elice, Michele Baccarani, Mario Boccadoro, Guido Cavaletti, and Michele Cavo.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**
Abstract No.: 1821 **Session: 651**

The authors assess the frequency, reversibility, risk factors, and molecular markers associated with treatment-emergent peripheral neuropathy (PN). They find that the probability of complete resolution or improvement to at least grade 1 is comparable in both thalidomide-dexamethasone (TD) and bortezomib-TD (VTD) treated groups, and that neurological adverse events do not adversely affect the rate of complete response (CR)/near CR, time to progression (TTP), and progression-free survival (PFS). Furthermore, they observe no relationship between development of PN and both patient demographics and disease characteristics; conversely, gene expression profile analysis of bone marrow plasma cells from patients with VTD-induced PN show significant deregulated expression of genes involved in nervous system function.

Thalidomide As Maintenance Therapy in Multiple Myeloma Improves Progression-Free Survival and Overall Survival: A Meta-Analysis

Ajay K. Nooka, Madhusmita Behera, Lawrence H. Boise, Melanie Watson, Jonathan L. Kaufman, and Sagar Lonial.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1855 **Session: 653**

The authors conduct a meta-analysis of Phase III randomized, controlled trials that have evaluated thalidomide as maintenance therapy in transplant-eligible patients. The authors find that thalidomide as a single agent or in combination with steroids as maintenance therapy improves progression-free survival (PFS) and overall survival (OS); however, high toxicity with the steroid combination is observed.

Bendamustine Combined with Bortezomib Has Efficacy in Patients with Relapsed or Refractory Multiple Myeloma: A Phase I/II Study

James R. Berenson, Ori Yellin, Alberto Bessudo, Ralph V. Boccia, Stephen J. Noga, Donald S. Gravenor, Dipti Patel-Donnelly, Robert S. Siegel, Tarun Kewalramani, Edward J. Gorak, Regina A. Swift, and Debra Mayo.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1857 **Session: 653**

This Phase I/II study assesses the safety, tolerability, and efficacy of bortezomib plus bendamustine for patients with relapsed or refractory MM. The authors find that for pretreated patients with relapsed or refractory MM, 28-day cycles of bendamustine 90 mg/m^2 on days 1 and 4 plus bortezomib 1.0 mg/m^2 on days 1, 4, 8, and 11 are well tolerated and show promising efficacy.

Risk of Second Cancers Among Multiple Myeloma Patients in the Era of Novel Agents: Analysis Using the Surveillance, Epidemiology and End Results (SEER) Database

Meghana Raghavendra, Jacob D. Gundrum, and Ronald S. Go.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1859 **Session: 653**

The authors use SEER data segregated into diagnosis periods as a surrogate to detect changes in the incidence of second cancers corresponding to the introduction of novel agents, including thalidomide, lenalidomide, and bortezomib. This population-based study suggests that the risk of developing second cancers in patients with MM may have increased in the recent decade wherein novel agents were introduced. A more specific study linking SEER to the Medicare database is recommended in order to further define the risk specific to novel agents.

Pharmacokinetics and Pharmacodynamics of Subcutaneous Versus Intravenous Administration of Bortezomib in Patients with Relapsed Multiple Myeloma: Effects of Subcutaneous Injection Site and Concentration, and Patient Characteristics

Philippe Moreau, Ievgenii I. Karamanesht, Natalia Domnikova, Maryna Y. Kyselyova, Kateryna Vilchevska, Vadim A. Doronin, Alexander Schmidt, Cyrille Hulin, Xavier Leleu, Dixie-Lee Esseltine, Karthik Venkatakrishnan, Donna M. Skee, Huaibao Feng, Suzette Girgis, Andrew Z. Cakana, William M. Deraedt, and Thierry Facon.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1863 **Session: 653**

The authors present a comprehensive analysis of the pharmacokinetics (PK) and pharmacodynamics (PD) of subcutaneous (SC) versus intravenous (IV) bortezomib and evaluate the impact of SC administration site/concentration and patient characteristics. The data from their relapsed MM patient population demonstrate that SC administration results in equivalent bortezomib plasma exposure, albeit with a lower C_{max} and longer T_{max}, compared with IV administration, together with comparable PD effects. SC injection site and concentration of the injected solution did not affect bortezomib PK and PD parameters, and the demographic covariates did not appear to have an impact on the PK and PD of SC bortezomib. The non-inferior efficacy of SC versus IV bortezomib in relapsed or refractory MM, together with the equivalent total systemic exposures via the SC and IV routes of administration, support the use of bortezomib via the SC route across the settings of clinical use.

Bortezomib, Lenalidomide, and Dexamethasone Consolidation and Lenalidomide Maintenance in Frontline Multiple Myeloma Patients: Updated Results of the IFM 2008 Phase II VRD Intensive Program

Murielle Roussel, Nelly Robillard, Philippe Moreau, Lotfi Benboubker, Cyrille Hulin, Gerald Marit, Xavier Leleu, Brigitte Pegourie, Christophe Fruchart, Denis Caillot, Anne-Marie Stoppa, Thierry Facon, Soraya Wuilleme, Hervé Avet-Loiseau, and Michel Attal.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1872 **Session: 653**

This Phase II study updates data of the IFM 2008 trial, which addresses the bortezomib-lenalidomide-dexamethasone (VRD) regimen as induction and consolidation therapy in the transplant setting. In this follow-up, the authors find that VRD consolidation plus lenalidomide maintenance after VRD induction and high-dose therapy produce high-quality responses, with 38% stringent complete response (sCR), and is well tolerated in *de novo* MM patients.

Unfavorable Cytogenetic Characteristics Do Not Adversely Impact Response Rates in Patients with Relapsed and/or Refractory Multiple Myeloma Treated with Single-Agent Carfilzomib on the 003 (A1) Study

Andrzej J. Jakubowiak, David S. Siegel, Seema Singhal, Thomas Martin, Sagar Lonial, Vishal Kukreti, Nizar Bahlis, Asher Alban Chanan-Khan, Melissa Alsina, George Somlo, Francis K. Buadi, Frederic J. Reu, Kevin W. Song, Lori Kunkel, Sandra M. Wear, Alvin F. Wong, Robert Z. Orlowski, A. Keith Stewart, Sundar Jagannath, and Luhua Wang.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1875 **Session: 653**

Outcomes Analysis of Doublets of Novel Agents with Corticosteroids versus Regimens with 3 or More Agents for Multiple Myeloma: A Retrospective Analysis

Rachid Baz, Amila M. Patel, Viet Q. Ho, Kenneth Shain, Melissa Alsina, Taiga Nishihori, Jose Leonel Ochoa-Bayona, Daniel Sullivan, Benjamin Djulbegovic, and William S. Dalton.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 1878 **Session: 653**

This retrospective analysis suggests that a sequence of doublets (including use of bortezomib and lenalidomide) is associated with improved survival among patients with MM as compared to regimens with three or more agents in patients with high-risk cytogenetics. While the limitations of this retrospective study limit drawing definitive conclusions, it appears that poor cytogenetics and disease biology trumps treatment intensification.

Allogeneic Bone Marrow Transplantation From Unrelated Donors in Multiple Myeloma: A Study from the Italian Bone Marrow Transplantation Donor Registry

Benedetto Bruno, Roberto Passera, Francesca Patriarca, Francesca Bonifazi, Vittorio Montefusco, Michele Falda, Luisa Giaccone, Mauro Montanari, Andrea Bacigalupo, Stefano Guidi, Nicola Mordini, Alessandro Rambaldi, Giuseppe Milone, Angelo Michele Carella, Pasqua Bavaro, Fabio Ciceri, Rosanna Scimè, Eduardo Benedetti, Alessandro Levis, Paola Marenco, Marco Casini, Alberto Bosi, Paolo Corradini, Giuseppe Bandini, Renato Fanin, Mario Boccadoro, and Simona Pollichieni.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 2009 **Session: 731**

A Phase I Study of Bendamustine and Melphalan Conditioning for Autologous Stem Cell Transplant in Multiple Myeloma

Tomer M. Mark, Whitney Reid, Ruben Niesvizky, Usama Gergis, Roger N. Pearse, Sebastian Mayer, Morton Coleman, Eric J. Feldman, and Tsiporah B. Shore.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 2042 **Session: 731**

Sequential High-Dose Dexamethasone and Response-Adapted PAD or VAD Induction Chemotherapy Followed by High-Dose Chemotherapy with Autologous Stem Cell Transplantation for Newly Diagnosed Multiple Myeloma; Open-Labeled, Multicenter Phase II Study (KMM-94 Study)-Interim Analysis

Jin Seok Kim, Cheolwon Suh, June-Won Cheong, Kihyun Kim, Yang Soo Kim, Se-Ryeon Lee, Sung Hwa Bae, Young-Don Joo, Sang Min Lee, Hyeon Seok Eom, Eunkyung Park, Sung-Soo Yoon, Inho Kim, Jae-Yong Kwak, Chang-Ki Min, Jeong-A Kim, Moo-Rim Park, Sung Hyun Kim, Hye Jin Kang, Min Kyoung Kim, Hawk Kim, Yeung-Chul Mun, Hoon-GU KIM, Moon Hee Lee, and Jae Hoon Lee.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster I

Time: 5:30 PM-7:30 PM **Location: Hall GH**

Abstract No.: 2044 **Session: 731**

The authors evaluate the efficacy and safety of the short course of high-dose dexamethasone and the response-adapted bortezomib-adriamycin-dexamethasone (PAD) or vincristine-adriamycin-dexamethasone (VAD) induction chemotherapy in the newly diagnosed younger patients with MM. They find that PAD re-induction therapy after failure of initial steroid induction treatment might overcome the inferior results in high-risk MM

patients; therefore, initial steroid response-adapted strategy might be the more cost-effective approach in the newly diagnosed autologous stem cell transplantation (ASCT) eligible MM patients.

SUNDAY, DECEMBER 11TH

Cereblon Expression Is Required for the Anti-Myeloma Activity of Lenalidomide and Pomalidomide

Yuan Xiao Zhu, Esteban Braggio, Chang-Xin Shi, Jessica Schmidt, Laura Bruins, Steven R. Schuster, Rafael Fonseca, P. Leif Bergsagel, Chad C. Bjorklund, Robert Z. Orlowski, and A. Keith Stewart.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Mechanisms of Drug Action and Resistance

Time: 4:30 PM **Location: Room 6DE**
Abstract No.: 127 **Session: 651**

A landmark paper recently identified cereblon as a primary target of thalidomide teratogenicity; the authors hypothesize that this protein would also be required for MM cytotoxicity. In this study, they demonstrate that cereblon is essential for IMiD activity, with preliminary data supporting that low levels of cereblon predict for poor drug response. In addition, their data suggest that cereblon is a critical molecule, but not the unique source of IMiD resistance.

Impact of Global and Gene-Specific DNA Methylation Pattern in Relapsed Multiple Myeloma Patients Treated with Bortezomib

Carlos Fernández de Larrea, Beatriz Martin-Antonio, María Teresa Cibeira, Alfons Navarro, Natalia Tovar, Tania Díaz, Laura Rosiñol, Mariano Monzó, Alvaro Urbano-Izpizua, and Joan Bladé.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Mechanisms of Drug Action and Resistance

Time: 5:45 PM **Location: Room 6DE**
Abstract No.: 132 **Session: 651**

A global DNA hypomethylation pattern with selective genes hypermethylated has been described in MM plasma cells when compared with normal plasma cells. This fact could constitute a potential target for the use of demethylating agents. The response to bortezomib is particularly variable in patients with relapsed or refractory disease. The authors examine both and correlate their findings with response, progression (PFS) and overall-survival (OS) to bortezomib in patients with relapsed MM. Their study observes a low methylation grade in the overall DNA was observed and a relative high methylation status in the global genome and low in NFkB, associated with longer OS after bortezomib therapy in this patient population. These results could be explained through the potential cell effect mediated by bortezomib in the NFkb pathway. The authors also identify a subgroup of patients with an ominous prognosis associated with DNA methylation at relapse in spite of bortezomib treatment.

Reversibility of the Resistance to Lenalidomide and Pomalidomide and Absence of Cross-Resistance in a Murine Model of MM

Enrique M. Ocio, Diego Fernández-Lázaro, Laura San-Segundo, Lorena González-Méndez, Montserrat Martín-Sánchez, Mercedes Garayoa, Teresa Paíno, Antonio Garcia-Gomez, Norma C. Gutierrez, Manuel Delgado, Juan C. Montero, Nuria Quintana, Jose Luis García, Atanasio Pandiella, and Jesús F. San Miguel.

Oral and Poster Abstracts: Myeloma - Pathophysiology and Pre-Clinical Studies, excluding Therapy: Novel Tumor Directed Approaches

Time: 4:45 PM **Location: Room 6A**
Abstract No.: 134 **Session: 652**

The authors develop an *in vivo* model of acquired resistance to anti-myeloma agents based in a model of subcutaneous plasmacytoma (MM1S) in CB17-SCID mice. Their data supports treatment with alternative IMIDs if resistance is developed to one of them, or even the retreatment with the same IMID after a wash up period. Moreover, this study supports the evaluation of combinations of IMIDs with agents that abrogate the ERK pathway in order to increase efficacy or avoid resistance.

High Expression of the Thalidomide-Binding Protein Cereblon (CRBN) Is Associated with Improved Clinical Response in Patients with Multiple Myeloma Treated with Lenalidomide and Dexamethasone

Daniel Heintel, Arnold Bolomsky, Martin Schreder, Sabine Pfeifer, Niklas Zojer, Ulrich Jäger, and Heinz Ludwig.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**
Abstract No.: 2879 **Session: 651**

The authors seek to investigate if expression levels of cereblon can serve as a predictor of MM response. Their studies show a significant association between cereblon expression and MM response in patients treated with lenalidomide-containing regimens, especially in those receiving lenalidomide and dexamethasone therapy.

Serum Heavy/Light Chain and Free Light Chain Measurements Provide Prognostic Information, Allow Creation of a Prognostic Model and Identify Clonal Changes (clonal tiding) Through the Course of Multiple Myeloma (MM).

Heinz Ludwig, Jeffrey Faint, Niklas Zojer, Arthur R Bradwell, Philip Young, Dejan Milosavljevic, Wolfgang Hübl, and Stephen Harding.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**
Abstract No.: 2883 **Session: 651**

Longitudinal Evaluation of 110 Bone Marrow Aspirates of Multiple Myeloma Patients Treated with Lenalidomide Alone or in Combination with Autologous Stem Cell Transplantation or Alkylators for Early Dysplastic Signs

Sara A. Monaghan, Lijun Dai, Susanne M. Gollin, Markus Y. Mapara, and Suzanne Lentzsch.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**
Abstract No.: 2885 **Session: 651**

The authors evaluate the bone marrow and corresponding cytogenetic data of patients treated with lenalidomide alone or in combination for early signs of myelodysplastic syndrome (MDS) as a secondary cancer for MM patients. Their careful longitudinal reevaluation of 110 bone marrow samples and

corresponding cytogenetic studies treated with lenalidomide alone, in combination with autologous stem cell transplant (ASCT) or bendamustine does not show increased signs of early or overt MDS.

Final Results of a Phase II Study Evaluating Lenalidomide in Combination with Low Dose Dexamethasone As First Line Therapy for Primary Plasma Cell Leukemia

Pellegrino Musto, Fiorella D'Auria, Maria Teresa Petrucci, Anna Levi, Nicola Cascavilla, Antonietta Falcone, Francesco Di Raimondo, Maide Cavalli, Tommaso Caravita, Fortunato Morabito, Massimo Offidani, Nunzio Filardi, Francesco Nobile, Giulia Benevolo, Giuseppe Pietrantuono, Maria Carmen Martorelli, Oreste Villani, Roberto Guariglia, Giovanna Mansueto, Giovanni D'Arena, Rosa Lerose, Antonia Zonno, Emanuela Zifarone, Valentina Santopietro, Katia Todoerti, Sara Bringhen, Francesca Gay, Paola Omedè, Antonino Neri, Mario Boccadoro, and Antonio Palumbo.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2925 **Session: 653**

Bortezomib-Bendamustine-Dexamethasone in Patients with Relapsed/Refractory Multiple Myeloma Shows Marked Efficacy and Is Well Tolerated, but Assessment of PNP Symptoms Shows Significant Discrepancies Between Patients and Physicians

Heinz Ludwig, Hedwig Kasparu, Werner Linkesch, Josef Thaler, Richard Greil, Clemens Leitgeb, Daniel Heintel, Elisabeth Rauch, Niklas Zojer, Ludek Pour, Adelheid Seebacher, and Zdenek Adam.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2928 **Session: 653**

The authors analyze the efficacy and tolerance of bortezomib-bendamustine-dexamethasone, with particular focus on possible discrepancies between patient and physician assessed neuropathic symptoms. They find that the regimen yields a response rate of 52% and a progression-free survival (PFS) of 9.6 months in heavily pretreated MM patients. Substantial response rates are noted in patients pre-exposed to bortezomib (33.3%) and lenalidomide (36.4%). Lastly, patient self-assessment of neuropathic symptoms reveals a much higher incidence of G1-2 and G3-4 symptoms than physician assessment; physician assessment of neurotoxicity may underestimate neurologic symptoms associated with disease or neurotoxic treatment.

Long-Term Outcomes and Safety of Continuous Lenalidomide Plus Dexamethasone Treatment in Patients with Relapsed or Refractory Multiple Myeloma

Meletios Athanasios Dimopoulos, Mohamad Hussein, Arlene S. Swern, and Donna M. Weber.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2929 **Session: 653**

This analysis of the long-term outcomes and safety of continuous lenalidomide+dexamethasone (len+dex) treatment finds that it demonstrates efficacy and is generally well tolerated in patients with relapsed/refractory MM. Overall, 18% of patients treated with len+dex achieve a progression-free survival of > 2 years, no increase in second primary malignancies is observed, and with appropriate adverse events (AE) management, the incidence rates of grade 3–4 AEs remain low. This analysis demonstrates the value of AE management and the need for appropriate dose-adjustment to maintain tolerability, allowing patients to remain on therapy for maximal benefit.

Risk of Second Primary Malignancies Following Bortezomib-Based Therapy: Analysis of Four Phase III Randomized Controlled Trials in Previously Untreated or Relapsed Multiple Myeloma

Jesús F. San Miguel, Paul G. Richardson, Robert Z. Orlowski, Hartmut Goldschmidt, Deyanira Corzo, Carol Satler, Dixie-Lee Esseltine, Rachel Neuwirth, Maria Ponsillo, Andrew Z. Cakana, Jay King, William M Deraedt, Avinash Desai, Yana Lutska, Dina Gifkins, Kevin Liu, and Pieter Sonneveld.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2933 **Session: 653**

The authors report an analysis of data from four Phase III, randomized, controlled trials of bortezomib alone or in combination to determine whether bortezomib treatment is associated with an increased second primary malignancy (SPM) risk. They find that bortezomib-based therapy for MM does not appear to be associated with an increased risk of either hematologic or solid tumor SPMs, with incidence rates consistent with SEER data for incidence rates in the overall U.S. population.

The Novel KSP Inhibitor ARRY-520 Demonstrates Single-Agent Activity in Refractory Myeloma: Results From a Phase II Trial in Patients with Relapsed/Refractory Multiple Myeloma

Sagar Lonial, Adam Cohen, Jeffrey Zonder, William I. Benzinger, Jonathan L. Kaufman, Robert Z. Orlowski, R. Donald Harvey, Raymond Alexanian, Sheeba K. Thomas, Donna Weber, Duncan Walker, Brandi Hilder, Ann Ptaszynski, and Jatin J. Shah.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2935 **Session: 653**

T-Bird (thalidomide, clarithromycin/[Biaxin®], lenalidomide/[Revlimid®], Dexamethasone) Therapy in Newly Diagnosed Symptomatic Multiple Myeloma

Tomer M. Mark, Manan Shah, Melissa Rodriguez, Ryann Quinn, Roger N. Pearse, Faiza Zafar, Karen Pekle, Patrice Mignott, David Jayabalan, Scott A. Ely, Morton Coleman, Selina Chen-Kiang, and Ruben Niesvizky.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2937 **Session: 653**

The authors report an update of the Phase II trial of T-BiRD (thalidomide, clarithromycin, lenalidomide, dexamethasone) in up-front treatment of symptomatic MM. They find that T-BiRD is a highly active regimen in treatment-naïve MM, with prolonged responses achieved; however, early treatment toxicity precluded extended use in up to a third of their patients. These data support the use of immunomodulatory-based regimens in the upfront treatment of MM and highlight the potential additive toxicities of the simultaneous administration of thalidomide and lenalidomide.

Preliminary Results of a Phase II Study of PD 0332991 in Combination with Bortezomib and Dexamethasone in Patients with Relapsed and Refractory Multiple Myeloma

Ruben Niesvizky, Luciano J. Costa, Nisreen A. Haideri, Georg Hess, Seema Singhal, Ivan Spicka, Edward A. Stadtmauer, Ashraf Z. Badros, Marc S. Raab, John L. Jakubczak, Sindy T. Kim, Sophia Randolph, Scott A. Ely, and Selina Chen-Kiang.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2940 **Session: 653**

This Phase I/II study of PD 0332991 in combination with bortezomib plus dexamethasone in relapsed and/or refractory MM patients finds that the combination currently shows response in four patients. The most commonly reported adverse events are cytopenias, consistent with the known safety profiles of PD 0332991 and bortezomib.

Long-Term Outcomes of Pomalidomide and Dexamethasone in Patients with Relapsed Multiple Myeloma: Analysis 4 Years After the Original Cohort

Joseph R. Mikhael, Suzanne R. Hayman, Kristina Laumann, Vivek Roy, Betsy R. LaPlant, Shaji Kumar, Francis K. Buadi, Craig B. Reeder, Morie A. Gertz, Angela Dispenzieri, John A. Lust, A. Keith Stewart, Stephen Russell, P.Leif Bergsagel, David Dingli, Steven Zeldenrust, Rafael Fonseca, Philip R. Greipp, Robert L. Hall, S. Vincent Rajkumar, and Martha Q. Lacy.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2942 **Session: 653**

Phase II Study of Carfilzomib Combined with Other Anti-Myeloma Agents in Relapsed-Refractory Multiple Myeloma - Updates on the UARK Compassionate Use Protocol

Saad Usmani, Jackie Szymonifka, Rachael Sexton, Susan Panozzo, Bijay Nair, Sarah Waheed, Yazan Alsayed, John Crowley, and Bart Barlogie.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2947 **Session: 653**

The data presented confirm and extend the previously reported results on carfilzomib demonstrating anti-MM activity and clinical benefit, alone and in combination with other agents, in a heavily pre-treated relapsed/refractory MM population. In particular, the authors find that the combination of carfilzomib-dexamethasone with lenalidomide and vorinostat has shown promise in a subset of this patient population.

Survival Outcome of Young Multiple Myeloma Patients in the Era of Novel Therapies

Prashant Kapoor, Morie A. Gertz, S. Vincent Rajkumar, Martha Q. Lacy, David Dingli, Suzanne R. Hayman, Stephen J. Russell, John A. Lust, Francis K. Buadi, Steven R. Zeldenrust, Philip R. Greipp, Angela Dispenzieri, Robert A. Kyle, and Shaji Kumar.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2950 **Session: 653**

The authors study the outcome of young patients presenting to their institution over the last decade and find a marked improvement in overall survival of young patients with MM diagnosed in the novel agent era (including lenalidomide, thalidomide, and bortezomib) in comparison to the historical control of similar age group. In addition, the authors find that an age-associated survival benefit in the younger patient population prevails in the era of novel therapies.

Temporal Changes in Plerixafor Administration Do Not Impact Hematopoietic Stem Cell Mobilization Efficacy: Results of a Prospective Clinical Trial

R. Donald Harvey, Sagar Lonial, Heather Renfroe, Rajni Sinha, Christopher R. Flowers, Mary Jo Lechowicz, H. Jean Khoury, Amelia Langston, Edmund K. Waller, and Jonathan L. Kaufman

Oral and Poster Abstracts: Cell Collection and Processing: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2988 **Session: 711**

Phase II Trial of Intravenously Administered AMD3100 (Plerixafor) for Stem Cell Mobilization in Patients with Multiple Myeloma Undergoing Autologous Stem Cell Transplantation Following a Lenalidomide-Based Initial Therapy

Shaji Kumar, Joseph R. Mikhael, Martha Q. Lacy, Betsy R. LaPlant, Francis K. Buadi, David Dingli, Morie A. Gertz, Teresa Miceli, Marcia Mahlman, P. Leif Bergsagel, Suzanne R. Hayman, Craig B. Reeder, Angela Dispenzieri, Dennis A. Gastineau, and Jeffrey Winters.

Oral and Poster Abstracts: Cell Collection and Processing: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 2992 **Session: 711**

The authors prospectively assess the efficacy of intravenous plerixafor administration in patients undergoing lenalidomide therapy. They find that intravenously administered plerixafor is an effective strategy for mobilization in this patient group, with low rate of failure to mobilize. It is well tolerated with toxicity comparable to the subcutaneous administration and it also offers flexibility in patient scheduling, with a convenient schedule for early morning infusion followed by apheresis later in the day.

Melphalan/Prednisone/Lenalidomide (MPR) Versus High-Dose Melphalan and Autologous Transplantation (MEL200) in Newly Diagnosed Multiple Myeloma (MM) Patients <65 Years: Results of a Randomized Phase III Study

Antonio Palumbo, Federica Cavallo, Izhar Hardan, Barbara Lupo, Valter Redoglia, Moshe Levin, Paolo Corradini, Sara Pezzatti, Francesca Patriarca, Michele Cavo, Magda Marcatti, Norbert Pescosta, Antonietta Pia Falcone, Roberto Ria, Davide Rossi, Giulia Benevolo, Clotilde Cangialosi, Monica Galli, Lucio Catalano, Anna Baraldi, Angelo Michele Carella, Annamaria Cafro, Agostina Siniscalchi, Claudia Crippa, Sara Grammatico, Maide Cavalli, Tommaso Caravita Di Toritto, Francesco Di Raimondo, Arnon Nagler, and Mario Boccadoro.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3069 **Session: 731**

In this prospective randomized study, the authors compare conventional melphalan-prednisone-lenalidomide (MPR) with tandem high-dose melphalan (MEL200) in newly diagnosed MM patients younger than 65 years. The authors find that progression-free survival (PFS) is significantly prolonged in the MEL200 group compared to MPR; this benefit is maintained in the subgroup of patients with standard- or high-risk cytogenetic features. Though toxicities are significantly higher in the MEL200 group, this is the first report showing a PFS advantage for autologous stem cell transplantation in comparison with conventional therapies, including novel agents.

Implications of Serial Magnetic Resonance Imaging and Positron Emission Tomography Scanning for Survival of Untreated Myeloma Patients Treated with Total Therapy 3

Saad Usmani, Alan Mitchell, Rachael Sexton, Susan Panozzo, Bijay Nair, Sarah Waheed, Yazan Alsayed, John Crowley, and Bart Barlogie.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster II

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3082 **Session: 731**

MONDAY, DECEMBER 12TH

SNP-Based Mapping Arrays Reveal High Genomic Complexity in Monoclonal Gammapathies: From the MGUS to Myeloma Status

Lucía López-Corral, Maria Eugenia Sarasquete, Sílvia Beà, Ramón García-Sanz, Maria Victoria Mateos, Marcos González, Luis Antonio Corchete, Joan Bladé, Albert Oriol-Rocafiguera, Miguel Hernandez, Pilar Giraldo, Jose Hernández, Jesús M Hernández-Rivas, Jesús F. San Miguel, and Norma C. Gutierrez.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Whole Genome Approaches to Understanding Pathogenesis and Disease Evolution

Time: 7:00 AM **Location: Room 6DE**

Abstract No.: 295 **Session: 651**

Investigational Agent MLN9708, an Oral Proteasome Inhibitor, in Patients with Relapsed and/or Refractory Multiple Myeloma: Results From the Expansion Cohorts of a Phase I Dose-Escalation Study

Paul G. Richardson, Rachid Baz, Luhua Wang, Andrzej J. Jakubowiak, Deborah Berg, Guohui Liu, Neeraj Gupta, Alessandra Di Bacco, Ai-Min Hui, and Sagar Lonial.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 7:00 AM **Location: Ballroom 20D**

Abstract No.: 301 **Session: 653**

Phase I Clinical Evaluation of Twice-Weekly Marizomib (NPI-0052), a Novel Proteasome Inhibitor, in Patients with Relapsed/Refractory Multiple Myeloma

Paul G. Richardson, Andrew Spencer, Paul Cannell, Simon J. Harrison, Laurence Catley, Craig Underhill, Todd M. Zimmerman, Craig C. Hofmeister, Andrzej J. Jakubowiak, Jacob P. Laubach, Michael A. Palladino, Angie M. Longenecker, Ana Lay, Sandra Wear, G. Kenneth Lloyd, Alison L. Hannah, Steve Reich, Matthew A. Spear, and Kenneth C. Anderson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 7:15 AM **Location: Ballroom 20D**

Abstract No.: 302 **Session: 653**

A Phase II Study of Elotuzumab in Combination with Lenalidomide and Low-Dose Dexamethasone in Patients with Relapsed/Refractory Multiple Myeloma

Sagar Lonial, Andrzej J. Jakubowiak, Sundar Jagannath, Marc S. Raab, Thierry Facon, Ravi Vij, Philippe Moreau, Donna E. Reece, Darrell J. White, Lotfi Benboubker, Jeffrey A. Zonder, Jean-Francois Rossi, Claire Tsao, Teresa Parli, Glenn Kroog, Anil K. Singhal, and Paul G. Richardson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 7:30 AM **Location: Ballroom 20D**

Abstract No.: 303 **Session: 653**

This ongoing Phase II study finds the dosages and scheduling for elotuzumab in combination with lenalidomide and low-dose dexamethasone in patients with relapsed/refractory MM. The authors find elotuzumab 10 mg/kg in combination with lenalidomide and low-dose dexamethasone is generally well tolerated and exhibits a 92% overall response rate in relapsed/refractory MM patients; 22% percent of patients progressed after a median of 11.4 months follow-up. Phase III clinical trials of this combination are ongoing in relapsed/refractory and frontline MM treatment.

Combination of Bendamustine, Lenalidomide, and Dexamethasone (BLD) in Patients with Refractory or Relapsed Multiple Myeloma Is Safe and Highly Effective: Results of Phase I/II Open-Label, Dose Escalation Study

Suzanne Lentzsch, Amy O'Sullivan, Ryan Kennedy, Mohammad Abbas, Navkiranjit Gill, Lijun Dai, Carrie Andreas, Diane Gardner, Silvana Lalo Pregja, Steve Burt, Robert L. Redner, Robert Volkin, G. David Roodman, Markus Y. Mapara, J. Franklin Viverette, Mounzer Agha, John K. Waas, Yongli Shuai, Daniel Normolle, and Jeffrey A. Zonder.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 7:45 AM **Location: Ballroom 20D**

Abstract No.: 304 **Session: 653**

In this first Phase I/II trial of its kind, the authors seek to determine the maximum tolerated dose and safety profile of bendamustine and lenalidomide when administered with dexamethasone for patients with relapsed or refractory MM. They find that this regimen is safe and well-tolerated, even in older patients up to 80 years. Based on the primarily myelosuppressive side effects, concomitant treatment with filgastrim is recommended. They also found this regimen to induce fast responses and high response rates even in heavily pretreated MM patients; these high responses were also achieved in patients with prior exposure to lenalidomide, suggesting that this regimen overcomes resistance to lenalidomide and is highly active.

BT062, an Antibody-Drug Conjugate Directed Against CD138, Shows Clinical Activity in Patients with Relapsed or Relapsed/Refractory Multiple Myeloma

Sundar Jagannath, Asher Chanan-Khan, Leonard T. Heffner, David Avigan, Todd M. Zimmerman, Sagar Lonial, Robert J. Lutz, Andre Engling, Christoph Uherek, Frank Osterroth, Markus Ruehle, Michelle A. Beelitz, Gabriele Niemann, Andrea Wartenberg-Demand, Thomas Haeder, Kenneth C. Anderson, and Nikhil C. Munshi

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 8:00 AM **Location: Ballroom 20D**

Abstract No.: 305 **Session: 653**

Molecular Characterization and Clinical Correlations of MEK1/2 Inhibition (AZD6244) in Relapse or Refractory Multiple Myeloma: Analysis From a Phase II Study

Adriana Zingone, Neha Korde, Jinqiu Chen, Liqiang Xi, Mark Raffeld, Beata Holkova, Maciej Kmieciak, Daniel Sullivan, Austin Doyle, Irina Maric, Katherine Calvo, Mary Ann Yancey, Marcia Mulquin, Christina Annunziata, Steven Grant, and Ola Landgren.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: New Agents in Myeloma

Time: 8:15 AM **Location: Ballroom 20D**

Abstract No.: 306 **Session: 653**

Combining Information Regarding Chromosomal Aberrations t(4;14), Del(17p13) and the Copy Number of 1q21 with the International Staging System Classification Allows Stratification of Myeloma Patients Undergoing Autologous Stem Cell Transplantation: Results From the HOVON-65/GMMG HD4 Trial

Kai Neben, Henk M. Lokhorst, Anna Jauch, Uta Bertsch, Thomas Hielscher, Christiane Heiss, Bronno van der Holt, Stefan Schmitt, Laila el Jarari, Hans J. Salwender, Igor W. Blau, Michael Pfreundschuh, Katja Weisel, Ulrich Duehrsen, Walter Lindemann, Christian Teschendorf, Hans Martin, Christof Scheid, Mathias Haenel, Hans Guenter Derigs, Ullrich Graeven, Ingo Schmidt-Wolf, Norma Peter, Mohammed Wattad, Steffen P. Luntz, Annemiek Broyl, Joerg Schubert, Martin Hoffmann, Martin Goerner, Jochen Tischler, Martin Kaufmann, Marc S. Raab, Anthony D. Ho, Helgi van de Velde, Dirk Hose, Pieter Sonneveld, and Hartmut Goldschmidt.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Myeloma, Lymphomas and Multiple Sclerosis

Time: 7:15 AM **Location: Douglas Pavilion C**

Abstract No.: 332 **Session: 731**

A Phase III Study Evaluating the Efficacy and Safety of Lenalidomide Combined with Melphalan and Prednisone Followed by Continuous Lenalidomide Maintenance in Patients ≥ 65 Years with Newly Diagnosed Multiple Myeloma: Updated Results for Patients Aged 65-75 Years Enrolled in MM-015

Antonio Palumbo, Zdenek Adam, Martin Kropff, Robin Foà, John Catalano, Heinz Gisslinger, Wieslaw Wiktor-Jedrzejczak, Michel Delforge, Katja Weisel, Nicola Cascavilla, Jan Van Droogenbroeck, Genadi Iosava, Michele Cavo, Joan Bladé, Meral Beksac, Ivan Spicka, Torben Plesner, Zhinuan Yu, Lindsey Herbein, Jay Mei, Christian J. Jacques, and Meletios Athanasios Dimopoulos.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 10:30 AM **Location: Ballroom 20D**

Abstract No.: 475 **Session: 653**

This analysis focuses on patients aged 65-75 years in whom the greatest benefit is observed in a Phase III trial comparing melphalan/prednisone/lenalidomide-lenalidomide (MPR-R) with fixed-duration MPR and MP induction in transplant-ineligible newly diagnosed MM patients. They authors find that continuous lenalidomide treatment with MPR-R significantly reduces disease progression risk compared with MP and MPR in patients aged 65-75 years. MPR induction also significantly extends progression-free survival (PFS) versus MP; to date, MPR-R has provided one of the longest median PFS (31 months) among other available regimens. The authors conclude that MPR-R should be considered a standard of care in transplant-ineligible newly diagnosed MM patients in this age group.

Continued Overall Survival Benefit After 5 Years' Follow-up with Bortezomib-Melphalan-Prednisone Versus Melphalan-Prednisone (MP) in Patients with Previously Untreated Multiple Myeloma, and No Increased Risk of Second Primary Malignancies: Final Results of the Phase III VISTA Trial

Jesús F. San Miguel, Rudolf Schlag, Nuriet K. Khuageva, Meletios Athanasios Dimopoulos, Ofer Shpilberg, Martin Kropff, Ivan Spicka, Maria T. Petrucci, Antonio Palumbo, Olga S. Samoilova, Anna Dmoszynska, Kudrat M. Abdulkadyrov, Michel Delforge, Bin Jiang, María-Victoria Mateos, Kenneth C. Anderson, Dixie-Lee Esseltine, Kevin Liu, William M. Deraedt, Andrew Z. Cakana, Helgi van de Velde, and Paul G. Richardson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 10:45 AM **Location: Ballroom 20D**

Abstract No.: 476 **Session: 653**

In this final updated overall survival (OS) analysis of VISTA after 5 years of follow-up, the authors find that bortezomib-melphalan-prednisone (VMP) results in a substantial long-term OS benefit versus MP (13.3-month increase in median) that is seen across patient subgroups and regardless of extensive subsequent therapy. They also find no increased risk of second primary malignancies identified with VMP.

Maintenance Therapy with Bortezomib Plus Thalidomide or Bortezomib Plus Prednisone in Elderly Myeloma Patients Included in the GEM2005MAS65 Spanish Randomized Trial

María-Victoria Mateos, Albert Oriol, Ana-Isabel Teruel, Enrique Bengoechea, Montse Pérez, Javier López, Joaquín Díaz-Mediavilla, Jose Mariano Hernández, Felipe de Arriba, Yolanda Gonzalez, Joan Bladé, Juan José Lahuerta, and Jesús F. San Miguel.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 11:00 AM **Location: Ballroom 20D**

Abstract No.: 477 **Session: 653.**

The authors report the results of the second stage of a trial comparing bortezomib-thalidomide (VT) with bortezomib-prednisone (VP) or up to three years as maintenance following induction with bortezomib-melphalan-prednisone or bortezomib-thalidomide-prednisone for elderly untreated MM patients. They find that these regimens, including bortezomib-based induction schemes that use weekly dosing of bortezomib, followed by bortezomib-maintenance schemes, represent a platform for further optimization of treatment for elderly MM patients through use of lenalidomide instead of thalidomide by reducing adverse events and potentially improving the efficacy.

Efficacy and Safety of Three Bortezomib-Based Combinations in Elderly, Newly Diagnosed Multiple Myeloma Patients: Results From All Randomized Patients in the Community-Based, Phase IIIb UPFRONT Study

Ruben Niesvizky, Ian W. Flinn, Robert Rifkin, Nashat Gabrail, Veena Charu, Billy Clowney, James Essell, Yousuf Gaffar, Thomas A. Warr, Rachel Neuwirth, Deyanira Corzo, and James Reeves.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 11:15 AM **Location: Ballroom 20D**

Abstract No.: 478 **Session: 653**

This is the first Phase III study of bortezomib-dexamethasone (VD) and bortezomib-thalidomide-dexamethasone (VTD) for elderly, newly diagnosed, transplant-ineligible MM patients. The authors find that VD, VTD, and bortezomib-melphalan-prednisone (VMP) induction followed by weekly bortezomib maintenance produce similar activity in this patient population, with similar long-term outcomes.

Phase I/II Study of Oral MLN9708, A Novel, Investigational Proteasome Inhibitor, in Combination with Lenalidomide and Dexamethasone in Patients with Previously Untreated Multiple Myeloma

Jesus G. Berdeja, Paul G. Richardson, Sagar Lonial, Ruben Niesvizky, Ai-Min Hui, Deborah Berg, Neeraj Gupta, Guohui Liu, Alessandra Di Bacco, and Shaji Kumar.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 11:30 AM **Location: Ballroom 20D**

Abstract No.: 479 **Session: 653**

This Phase I trial seeks to determine the safety, tolerability, and maximum tolerated dose (MTD) of weekly MLN9708 in combination with lenalidomide and dexamethasone. The authors find that MLN9708 administered weekly in combination with lenalidomide and dexamethasone appears to be generally well-tolerated in previously untreated MM patients at the MLN9708 dose levels studied, with evidence of antitumor activity in the dose-escalation cohorts. Evaluation continues to determine the MTD of MLN9708 in this combination.

Vantage 095: Vorinostat in Combination with Bortezomib in Salvage Multiple Myeloma Patients: Final Study Results of a Global Phase IIb Trial

David S. Siegel, Meletios Athanasios Dimopoulos, Sung-Soo Yoon, Jacob P. Laubach, Jonathan L. Kaufman, Hartmut Goldschmidt, Donna E. Reece, Xavier Leleu, Simon Durrant, Fritz C. Offner, Michele Cavo, Arnon Nagler, Sundar Jagannath, Thorsten Graef, Jennifer Houp, Linda Sun, Jason Howe, Sandra M. Wear, and Kenneth C. Anderson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation I

Time: 11:45 AM **Location: Ballroom 20D**

Abstract No.: 480 **Session: 653**

In this Phase IIb trial, the authors assess the combination of vorinostat plus bortezomib in bortezomib-refractory patients and patients considered to be refractory, intolerant, or ineligible for IMiD-based therapy regimens. Final data for all primary and secondary endpoints, including response assessment and time-to-event data for progression-free survival/time-to-progression, overall survival, and duration of response will be available at the meeting.

High-Risk Cytogenetics and Persistent Minimal Residual Disease (MRD) by Multiparameter Flow Cytometry (MFC) Predict Unsustained Complete Response (CR) After Autologous Stem Cell Transplantation (ASCT) in Multiple Myeloma

Bruno Paiva, Norma C. Gutierrez, Laura Rosiñol, María-Belén Vidriales, María-Angeles Montalbán, Joaquín Martínez-López, Maria Victoria Mateos, María Teresa Cibeira, Lourdes Courdón, Albert Oriol, María José Terol, Maria-Asuncion Echebeste, Raquel de Paz, Felipe de Arriba, Luis Palomera, Javier De La Rubia, Joaquín Díaz-Mediavilla, Anna Sureda, Ana Gorosquieta, Adrian Alegre, Alejandro Martín, Miguel T. Hernandez, Juan José Lahuerta, Joan Bladé, and Jesús F. San Miguel.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Disease Mechanisms and Prognostic Features

Time: 4:00 PM **Location: Room 6DE**

Abstract No.: 630 **Session: 651**

Final Results of a Frontline Phase I/II Study of Carfilzomib, Lenalidomide, and Low-Dose Dexamethasone in Multiple Myeloma

Andrzej J. Jakubowiak, Dominik Dytfeld, Sundar Jagannath, David H. Vesole, Tara B. Anderson, Brian K. Nordgren, Kristen Detweiler-Short, Daniel Lebovic, Keith E. Stockerl-Goldstein, Kent A. Griffith, Terri L. Jobkar, Diane E. Durecki, Sandra M. Wear, Robert F. Ott, Ammar Al-Zoubi, Melissa A Mietzel, M. Hussein, Daniel Couriel, Joseph A. Leveque, and Ravi Vij.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Combinations Therapy for Myeloma

Time: 2:45 PM **Location: Ballroom 20D**

Abstract No.: 631 **Session: 653**

The authors report the results for all patients enrolled in both phases of this first prospective trial of carfilzomib in combination with lenalidomide and low-dose dexamethasone (CRd) in new MM. They find that the combination is highly active and well-tolerated, allowing the use of full doses for an extended time in newly-diagnosed MM patients with limited need for dose modification. Responses are rapid and improve over time, reaching 100% ≥very good partial response; early time-to-event data are also very encouraging. These results compare favorably to the best frontline regimens in MM.

A Phase I/II Study of Pomalidomide-Cyclophosphamide-Prednisone (PCP) in Patients with Multiple Myeloma Relapsed/Refractory to Lenalidomide

Antonio Palumbo, Alessandra Larocca, Angelo Michele Carella, Davide Rossi, Vittorio Montefusco, Samantha Ferrari, Alberto Santagostino, Tommasina Guglielmelli, Monica Galli, Antonio Capaldi, Nicola Giuliani, Giacinto La Verde, Paola Omedè, Ileana Baldi, Mario Boccadoro, and Paolo Corradini.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Combinations Therapy for Myeloma

Time: 3:00 PM **Location: Ballroom 20D**

Abstract No.: 632 **Session: 653**

Carfilzomib Combined with Thalidomide and Dexamethasone (CARTHADEX) As Induction Treatment Prior to High-Dose Melphalan (HDM) in Newly Diagnosed Patients with Multiple Myeloma. A Trial of the European Myeloma Network

Pieter Sonneveld, Emilie Hacker, Sonja Zweegman, Marie Jose Kersten, Edo Vellenga, Marinus van Marwijk-Kooy, Okke de Weerdt, Sarah Lonergan, Antonio Palumbo, and Henk M. Lokhorst.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Combinations Therapy for Myeloma

Time: 3:15 PM **Location: Ballroom 20D**

Abstract No.: 633 **Session: 653**

This Phase II trial evaluates carfilzomib combined with thalidomide and dexamethasone during induction and consolidation for feasibility, response and progression-free survival (PFS) in patients with newly diagnosed symptomatic MM who are candidates for high-dose therapy. The authors find that this combination during induction and consolidation is feasible and effective. The complete data, including response after consolidation, will be reported at the meeting.

Randomized, Open Label Phase I/II Study of Pomalidomide (POM) Alone or in Combination with Low-Dose Dexamethasone in Patients with Relapsed and Refractory Multiple Myeloma Who Have Received Prior Treatment That Includes Lenalidomide and Bortezomib: Phase II Results

Paul G. Richardson, David S. Siegel, Ravi Vij, Craig C. Hofmeister, Sundar Jagannath, Christine Chen, Sagar Lonial, Andrzej J. Jakubowiak, Nizar J. Bahlis, Rachid Baz, Gail Larkins, Min Chen, Mohamed Zaki, and Kenneth C. Anderson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Combinations Therapy for Myeloma

Time: 3:30 PM **Location: Ballroom 20D**
Abstract No.: 634 **Session: 653**

ClaPD (Clarithromycin/[Biaxin®], Pomalidomide, Dexamethasone) Therapy in Relapsed or Refractory Multiple Myeloma

Tomer M. Mark, Melissa Rodriguez, Manan Shah, Ryann Quinn, Jessica Campbell, Ramsey Abdullah, Roger N. Pearse, Faiza Zafar, Karen Pekle, Patrice Mignott, David Jayabalan, Scott A. Ely, Morton Coleman, Selina Chen-Kiang, and Ruben Niesvizky.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Combinations Therapy for Myeloma

Time: 3:45 PM **Location: Ballroom 20D**
Abstract No.: 635 **Session: 653**

Direct Binding with Cereblon Mediates the Antiproliferative and Immunomodulatory Action of Lenalidomide and Pomalidomide

Antonia Lopez-Girona, Derek Mendy, Karen Miller, Anita K. Gandhi, Jian Kang, Gilles Carmel, Mahan Abbasian, Afshin Mahmoudi, Pilgrim Jackson, Brian Cathers, Emily Rychak, Normand Richard, Helen A. Brady, Peter H. Schafer, Jilly F. Evans, Tom O. Daniel, and Rajesh Chopra.

Oral and Poster Abstracts: Molecular Pharmacology, Drug Resistance: Molecular Mechanisms and Drug Testing

Time: 5:45 PM **Location: Room 5AB**
Abstract No.: 738 **Session: 604**

The authors demonstrate that lenalidomide and pomalidomide bind to cereblon-DDB1 complex, with data demonstrating that cereblon is a direct target of lenalidomide and pomalidomide, and plays a crucial role in their antitumor efficacy.

A 41-Gene Signature Predicts Complete Response to Bortezomib-Thalidomide-Dexamethasone as Induction Therapy Prior to Autologous Stem-Cell Transplantation (ASCT) in Multiple Myeloma

Carolina Terragna, Daniel Remondini, Sandra Durante, Marina Martello, Francesca Patriarca, Anna Levi, Lucia Pantani, Daniela Donnarumma, Claudia Crippa, Sara Bringhen, Alessandro Rambaldi, Massimo Offidani, Paolo Corradini, Franco Narni, Giuseppe Fioritoni, Alfonso Zaccaria, Luca Baldini, Tommaso Caravita, Giorgio La Nasa, Sergio Cortelazzo, Giovanni Martinelli, Michele Baccarani, and Michele Cavo.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Novel Insights into Clinical Behavior

Time: 4:30 PM **Location: Room 6DE**
Abstract No.: 805 **Session: 651**

In this molecular sub-study, the authors assess the ability of gene expression profile (GEP) to predict attainment of complete response (CR)/near CR in 122 patients receiving bortezomib-thalidomide-dexamethasone (VTD) as induction therapy. The GEP analysis of this subgroup provides a 41-gene signature that is able to predict attainment of CR/nCR and, conversely, failure to achieve at least nCR in 91% and 95% of cases, respectively. These results might represent a first step towards the possible application of a tailored therapy based on the single patient's genetic background.

Multidimensional Flow Cytometric (MFC) Analysis of the Immune System of Multiple Myeloma Patients Achieving Long-Term Disease Control

Roberto J. Pessoa Magalhaes, María-Belén Vidriales, Bruno Paiva, Maria-Victoria Mateos, Norma C. Gutierrez, Ramón García-Sanz, Juan F. Blanco, Jose Hernández, Natalia de las Heras, Joaquin Martinez, Elaine Sobral Costa, Angelo Maiolino, M. Nucci, Javier De La Rubia, Juan-Jose Lahuerta, Alberto Orfao, and Jesús F. San Miguel.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Novel Insights into Clinical Behavior

Time: 5:45 PM **Location: Room 6DE**
Abstract No.: 810 **Session: 651**

Vantage 088: Vorinostat in Combination with Bortezomib in Patients with Relapsed/Refractory Multiple Myeloma: Results of a Global, Randomized Phase III Trial

Meletios Athanasios Dimopoulos, Sundar Jagannath, Sung-Soo Yoon, David S. Siegel, Sagar Lonial, Roman Hajek, Thierry Facon, Laura Rosiñol, Hilary Anne Blacklock, Hartmut Goldschmidt, Vania Hungria, Andrew Spencer, Antonio Palumbo, Donna E. Reece, Thorsten Graef, Jennifer Houp, Linda Sun, Joseph E. Eid, and Kenneth C. Anderson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Novel drugs in relapsed/refractory myeloma patients

Time: 4:30 PM **Location: Ballroom 20D**
Abstract No.: 811 **Session: 653**

The authors study vorinostat in combination with bortezomib in relapsed/refractory MM patients. Top-line data on primary and secondary endpoints will be available at the meeting.

High Response Rates to Pomalidomide and Dexamethasone in Patients with Refractory Myeloma, Final Analysis of IFM 2009-02

Xavier Leleu, Michel Attal, Bertrand Arnulf, Philippe Moreau, Catherine Traulle, Mauricette Michalet, Gerald Marit, Claire Mathiot, Marie Odile Petillon, Margaret Macro, Murielle Roussel, Brigitte Pegourie, Brigitte Kolb, Anne-Marie Stoppa, Sabine Brechiniac, Laurent Garderet, Bruno Royer, Cyrille Hulin, Lotfi Benboubker, Olivier Decaux, Denis Caillot, Martine Escoffre-Barbe, Jean Paul Fermand, Hervé Avet-Loiseau, and Thierry Facon.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Novel drugs in relapsed/refractory myeloma patients

Time: 4:45 PM **Location: Ballroom 20D**
Abstract No.: 812 **Session: 653**

Final Results From the Bortezomib-naïve Group of PX-171-004, a Phase II Study of Single-Agent Carfilzomib in Patients with Relapsed and/or Refractory MM

Ravi Vij, Jonathan L. Kaufman, Andrzej J. Jakubowiak, Michael Wang, Sundar Jagannath, Vishal Kukreti, Kevin T. McDonagh, Melissa Alsina, Nizar J. Bahlis, Andrew R. Belch, Frederic J. Reu, Nashat Y. Gabrail, Jeffrey Matous, David H. Vesole, Robert Z. Orlowski, Sandra Wear, Lori Kunkel, Alvin F. Wong, Peter Lee, and Keith Stewart.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Novel drugs in relapsed/refractory myeloma patients

Time: 5:00 PM **Location: Ballroom 20D**
Abstract No.: 813 **Session: 653**

Phase II Study of the Pan-Deacetylase Inhibitor Panobinostat in Combination with Bortezomib and Dexamethasone in Relapsed and Bortezomib-Refractory Multiple Myeloma (PANORAMA 2)

Paul G. Richardson, Melissa Alsina, Donna M. Weber, Steven E. Coutre, Sagar Lonial, Cristina Gasparetto, Ghulam Warsi, Michael Ondovik, Sutapa Mukhopadhyay, Susan Snodgrass, and Robert Schlossman.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Novel drugs in relapsed/refractory myeloma patients

Time: 5:15 PM **Location: Ballroom 20D**
Abstract No.: 814 **Session: 653**

This Phase II study assesses panobinostat + bortezomib + dexamethasone in patients with bortezomib-refractory MM. The authors find that the combination is a promising treatment for this patient population.

Second Malignancies in Total Therapy 3 Trials for Newly Diagnosed Multiple Myeloma: Influence of Lenalidomide Versus Thalidomide in Maintenance Phases

Saad Usmani, Rachael Sexton, Antje Hoering, Christoph Heuck, Bijay Nair, Sarah Waheed, Yazan Alsayed, Nathan M Petty, John Crowley, and Bart Barlogie.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Late Complications and Approaches to Disease Recurrence: Complications of Transplantation for Myeloma

Time: 4:30 PM **Location: Douglas Pavilion B (Manchester Grand Hyatt)**
Abstract No.: 823 **Session: 723**

The authors investigate whether lenalidomide therapy is associated with greater probability of inducing second malignancies. Their data suggest that there are no discernible differences in CA-2 when combining different IMiDs with bortezomib/dexamethasone as maintenance strategy. There is, however, a higher incidence of myelodysplastic syndrome karyotypic abnormalities, both transient and persistent, in patients who remain on the bortezomib/dexamethasone/lenalidomide maintenance after having undergone autologous stem cell transplantation on Total Therapy 3 with maintenance lenalidomide.

Conventionally-Defined and PET/CT-Defined Complete Response (CR) to Novel Agent-Based Induction Therapy and Autologous Stem-Cell Transplantation (ASCT) In Multiple Myeloma (MM): A Prospective Study of Clinical and Prognostic Implications

Elena Zamagni, Cristina Nanni, Francesca Patriarca, Annalisa Pezzi, Statistician, Beatrice Anna Zannetti, Paola Tacchetti, Emanuela Englaro, Giulia Perrone, Silvia Buttignol, Annamaria Brioli, Lucia Pantani, Francesca Carobolante, Michele Baccarani, Stefano Fanti, and Michele Cavo.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Late Complications and Approaches to Disease Recurrence: Complications of Transplantation for Myeloma

Time: 5:15 PM **Location: Douglas Pavilion B**
Abstract No.: 826 **Session: 723**

Long-Term Results of the GIMEMA VTD Consolidation Trial in Autografted Multiple Myeloma Patients (VEL-03-096): Impact of Minimal Residual Disease Detection by Real Time Quantitative PCR on Late Recurrences and Overall Survival.

Marco Ladetto, Simone Ferrero, Daniela Drandi, Federica Cavallo, Luigia Monitillo, Paola Ghione, Sara Barbiero, Mariella Grasso, Fausto Rossini, Tommasina Guglielmelli, Clotilde Cangialosi, Anna Marina Liberati, Vincenzo Callea, Tommaso Caravita, Luca De Rosa, Francesco Pisani, Antonietta Pia Falcone, Patrizia Pregno, Alberto Rocci, Roberto Passera, Mario Boccadoro, and Antonio Palumbo.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Late Complications and Approaches to Disease Recurrence: Complications of Transplantation for Myeloma

Time: 5:30 PM **Location: Douglas Pavilion B (Manchester Grand Hyatt)**
Abstract No.: 827 **Session: 723**

The authors present the updated results at a median follow-up of 65 months of a study exploring bortezomib/thalidomide/dexamethasone (VTD) as consolidation therapy. Their long-term results indicate that the achievement of standard molecular remission following VTD consolidation in MM patients is associated with a better outcome in terms of progression-free survival (PFS) and overall survival (OS), and that a dynamic increase in molecular tumor burden, detectable by RQ-PCR, predicts late disease relapses several months before clinical recurrence. Taken together these results suggest the importance of developing tailored treatment for patients with high residual burden or showing increasing levels of minimal residual disease during follow-up.

Risks for Different Neoplasms (DNs) in Multiple Myeloma (MM) Patients May Involve Specific Host-, Myeloma-, and Treatment-Related Susceptibilities: Registry Data of 681 Consecutive MM Patients

Martina Kleber, Kerstin Höck, Gabriele Ihorst, Bernd Koch, Ralph Waesch, and Monika Engelhardt.

Oral and Poster Abstracts: Myeloma - Biology and Pathophysiology, excluding Therapy: Poster III

Time: 6:00 – 8:00 PM **Location: Hall GH**
Abstract No.: 3929 **Session: 651**

The Role of Novel Agents on Reversibility of Renal Impairment in Newly Diagnosed Patients with Multiple Myeloma; a Single Center Experience on 112 Patients

Meletios A Dimopoulos, Maria Roussou, Maria Gkotzamanidou, Erasmia Psimenou, Despoina Mparmparoussi, Charis Matsouka, Evangelos Terpos, and Efstathios Kastritis.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 – 8:00 PM **Location: Hall GH**
Abstract No.: 3961 **Session: 653**

Pomalidomide and Dexamethasone in Relapsed Myeloma: Results of 225 Patients Treated in Five Cohorts Over Three Years.

Martha Q. Lacy, Betsy R. LaPlant, Kristina Laumann, Morie A. Gertz, Suzanne R. Hayman, Francis K. Buadi, Angela Dispenzieri, Shaji Kumar, John A. Lust, Stephen Russell, David Dingli, Steven R. Zeldenrust, Philip R. Greipp, Rafael Fonseca, P. Leif Bergsagel, Vivek Roy, Keith Stewart, Craig B. Reeder, Robert L. Hall, S. Vincent Rajkumar, and Joseph R. Mikhael.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 – 8:00 PM **Location: Hall GH**
Abstract No.: 3963 **Session: 653**

Once a Week Bortezomib with Dexamethasone is Effective with Limited Toxicity in Newly Diagnosed Multiple Myeloma Patients with Older Age and Co-Morbidities

Nikhil C. Munshi, Saem Lee, Suman Kambhampati, Michal Rose, Abid Mohiuddin, Yvonne Efebera, Andrew Han, Antoun Houranieh, Abraham Zimelman, Mary T. Brophy, Rao Prabhala, Terrence Grady, Paulette Mehta, Teresa G. Hayes, Sarvari Venkata Yellapragada, Caroline Behler, Catherine Klein, David Roodman, and Alan K. Lichtenstein.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3964 **Session: 653**

The authors investigate the efficacy and safety of a weekly bortezomib regimen in combination with dexamethasone and find that the regimen is effective and well-tolerated — even in older patients with significant co-morbidities — and should be considered as an important option in MM.

Elotuzumab in Combination with Lenalidomide and Low-Dose Dexamethasone in High-Risk and/or Stage 2-3 Relapsed and/or Refractory Multiple Myeloma: A Retrospective Subset Analysis of the Phase II Study

Sundar Jagannath, Sagar Lonial, Andrzej J. Jakubowiak, Thierry Facon, Ravi Vij, Marc S. Raab, Darrell J. White, Min-Hui Wang, Teresa Parli, Blake J. Bartlett, Anil K. Singhal, and Paul G. Richardson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3968 **Session: 653**

The authors report a subset analysis of Phase II patients with high-risk and/or stage 2-3 MM and/or refractory to prior treatment who are treated with elotuzumab in combination with lenalidomide and low-dose dexamethasone, and find that this combination shows encouraging activity in cytogenetically high-risk, β2M ≥3.5 mg/L, and refractory MM patients.

Does Heparin Have an Anti-Myeloma Effect? An Analysis on Individual Data from Three Randomized Studies of GIMEMA, Nordic and Turkish Myeloma Study Groups

Meral Beksac, Anders Waage, Sara Bringhen, Sigurdur Y. Kristinsson, Gulsan Sucak, Peter Gimsing, Lupparelli Giulia, Tulin Firatli Tuglular, Gunnar Juliusson, and Antonio Palumbo.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3970 **Session: 653**

The authors initiate this study with an aim to separate the effect of heparin from the response achieved following melphalan and prednisolone plus thalidomide (MPT). Based on individual data from three large randomized trials comparing MPT and MP, the authors find the addition of low molecular weight heparin (LMWH) to be significantly associated with a better response in MP patients and improved survival in MPT patients. Although the cytogenetic and molecular profile of the patients are unknown and this is a retrospective analysis, improvement of response and survival following introduction of LMWH to the MP or MPT treatment suggests an anti-MM activity of LMWH.

Second Malignancies Among Elderly Multiple Myeloma Patients Exposed to Bortezomib and Other Treatments: An Analysis of the US SEER-Medicare Linked Database

Dina Gifkins, Megan McAuliffe, Amy Matcho, Jane Porter, Scott Chavers, Maria Ponsillo, Jay King, Avinash Desai, Andrew Cakana, and Dixie-Lee Esseltine.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3972 **Session: 653**

The authors conduct a population-based study using the NCI SEER-Medicare to evaluate bortezomib and other standard treatment exposures in relation to second malignancies subsequent to MM. Based on more than 9,000 elderly MM patients, they find a lower prevalence of second malignancies among persons exposed to bortezomib compared to those with no documented bortezomib exposure in their unadjusted analysis.

Update on a Phase III Study of Panobinostat with Bortezomib and Dexamethasone in Patients with Relapsed Multiple Myeloma: PANORAMA 1

Jesús F. San-Miguel, Vânia Hungria, Sung-Soo Yoon, Wieslaw Wiktor-Jedrzejczak, Ashraf Elghandour, Noppadol Siritanaratkul, Meletios Athanasios Dimopoulos, Paolo Corradini, Thanyaphong Na Nakorn, Tatiana Shelekhova, Andreas Günther, Kwee Yong, Robert Schlossman, Monika Wroclawska-Swacha, Hans-Jochen Weber, Priscille Bourquelot, Jian Hou, Hermann Einsele, Jae Hoon Lee, Philippe Moreau, Sagar Lonial, and Paul G. Richardson.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3976 **Session: 653**

The authors present the preliminary demographic and blinded safety results of the Phase III study of panobinostat with bortezomib and dexamethasone in patients with relapsed MM. They find that this combination shows clinical activity in relapsed and refractory MM patients, and that preliminary analysis of pooled safety data from the first 267 patients treated demonstrate no new or unexpected adverse events.

Treatment Patterns and Outcomes in Elderly Patients with Multiple Myeloma

Soo-Mee Bang, Robert A. Kyle, Jae Hoon Lee, Angela Dispenzieri, Dirk Larson, Colin L. Colby, S. Vincent Rajkumar, and Shaji Kumar.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3980 **Session: 653**

The authors retrospectively study the treatment patterns, outcomes, and prognostic factors in MM patients over 75 years of age, finding that older patients receiving newer therapies (such as thalidomide, lenalidomide, and bortezomib) appear to have a better outcome, though still lagging behind the younger patients.

Factors Predicting Early Mortality in Patients with Newly Diagnosed Multiple Myeloma

Vishal Rana, Geetika Srivastava, Suzanne R. Hayman, Francis K. Buadi, Morie A. Gertz, Martha Q. Lacy, Philip R. Greipp, Steven R. Zeldenrust, Angela Dispenzieri, Robert A. Kyle, John A. Lust, Kristen Detweiler Short, David Dingli, Stephen J. Russell, S. Vincent Rajkumar, and Shaji Kumar.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3981 **Session: 653**

The authors attempt to identify patients at the highest risk of early death based on presenting clinical and laboratory features. They conclude that in newly diagnosed MM, advanced age, poor performance status, ISS stage, and high calcium are associated with early mortality. If eligible, all patients should get the benefit of use of novel agents (thalidomide, lenalidomide, and bortezomib) upfront.

Differences in Patterns of Treatment and Outcome among Patients with Relapsed Refractory Myeloma from United States, Europe, and Asia

Shaji Kumar, Jae Hoon Lee, Juan Jose Lahuerta, Gareth J. Morgan, Paul G. Richardson, John Crowley, Jeff Haessler, John Feather, Antje Hoering, Philippe Moreau, Xavier Leleu, Cyril Hullin, Saskia K. Klein , Pieter Sonneveld, David S. Siegel, Joan Bladé, Hartmut Goldschmidt, Sundar Jagannath, Jesús F. San Miguel, Robert Z. Orlowski, Antonio Palumbo, Orhan Sezer, S. Vincent Rajkumar, and Brian G.M. Durie.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 – 8:00 PM **Location: Hall GH**

Abstract No.: 3989 **Session: 653**

The Improved Efficacy of Bortezomib Containing Induction Regimens (BCIR) Versus Non-Bortezomib Containing Induction Regimens (NBCIR) in Transplant-Eligible Patients with Multiple Myeloma: Meta-Analysis of Phase III Randomized Controlled Trials

Ajay K. Nooka, Jonathan L. Kaufman, Madhusmita Behera, Charise Gleason, Amelia Langston, Conor Ermst Steuer, Christopher R. Flowers, Lawrence H. Boise, and Sagar Lonial.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 3994 **Session: 653**

This meta-analysis evaluates the efficacy of the addition of bortezomib to the existing regimens used in induction therapy, and demonstrates that the addition of bortezomib to the induction regimens in transplant-eligible MM patients results in improved overall response rate (ORR), ≥ very good partial response (VGPR), complete response (CR), progression-free survival (PFS), and overall survival (OS) compared with non-bortezomib containing induction regimens. The pooled estimates of response and survival strongly favor inclusion of bortezomib in the induction regimens.

Cost Analysis of Using Plerixafor plus G-CSF versus Cyclophosphamide plus G-CSF for Autologous Stem Cell Mobilization in Multiple Myeloma Patients Treated at Memorial Sloan-Kettering Cancer Center (MSKCC)

Nelly G. Adel, Elaine Duck, Karen Collum, Emily Mccullagh, Lilian Reich, Heather Landau, Sergio Giralt, and Hani Hassoun.

Oral and Poster Abstracts: Cell Collection and Processing: Poster III

Time: 6:00 – 8:00 PM **Location: Hall GH**

Abstract No.: 4059 **Session: 711**

Secondary Primary Malignancies in Patients with Multiple Myeloma Treated with High-Dose Chemotherapy and Autologous Blood Stem Cell Transplantation

Roland Fenk, Florian Neubauer, Ingmar Bruns, Christian Saure, Thomas Schroeder, Ulrich Germing, Norbert Gattermann, Rainer Haas, and Guido Kobbe.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Late Complications and Approaches to Disease Recurrence: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 4087 **Session: 723**

To evaluate the incidence of secondary primary malignancies (SPM) in patients who were treated with high-dose therapy (HDT) followed by autologous peripheral blood stem cell transplantation (PBSCT), the authors retrospectively look at a homogeneous group of 313 consecutive patients who were diagnosed with MM and had received HDT and autologous PBSCT. They find that the incidence of SPM in patients with MM treated with HDT is increased, especially for patients with a prolonged life span, but that SPM are not related to various treatment modalities, including maintenance treatment with thalidomide.

A Randomized Clinical Trial of Lenalidomide and Dexamethasone with and without Autologous Stem Cell Transplant in Patients with Newly Diagnosed Multiple Myeloma: Interim Study Results

Lijun Dai, Amy O'Sullivan, Ryan Kennedy, Mohammad Abbas, Yongli Shuai, Vida Almario Passero, Carrie Andreas, Diane Gardner, Robert L. Redner, G. David Roodman, Stanley M. Marks, Anastasios Raptis, Jing-Zhou Hou, Daniel Petro, Min Sun, Terry Evans, Louis V. Pietragallo, John K. Waas, J. Franklin Viverette, Jennifer Osborn, Vincent Reyes, Richard Pinkerton, Theodore Crandall, Ronald Fierro, Robert Volkin, Daniel Normolle, Markus Y. Mapara, and Suzanne Lentzsch.

Oral and Poster Abstracts: Clinical Allogeneic and Autologous Transplantation - Results: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 4142 **Session: 731**

This randomized clinical trial seeks to determine the role of upfront autologous stem cell transplantation (ASCT) in newly diagnosed MM patients receiving lenalidomide and low-dose dexamethasone induction. The study requires careful interpretation based on the low patient number and relatively short follow-up, but supports the continued role of upfront consolidative ASCT in newly diagnosed MM patients.

Cost-Effectiveness of Lenalidomide in Multiple Myeloma Patients with 1 Prior Therapy in England and Wales

Stephen Schey, Sean Stern, Sujith Dhanasiri, and Ruth Brown.

Oral and Poster Abstracts: Health Services and Outcomes Research: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 4181 **Session: 901**

This economic modelling evaluates the cost-effectiveness of lenalidomide+dexamethasone from the perspective of the National Health Service, England and Wales. The authors' analysis demonstrates that this combination is cost-effective for 2nd line MM patients and meets the commonly quoted cost per Quality Adjusted Life Year threshold of 30,000.

An Alternate Day Dosing Strategy for Lenalidomide in Multiple Myeloma Improves Cost-Effectiveness Whilst Maintaining Efficacy

Rakesh Popat, Jenny Dickson, Iftekhar Khan, Simon Cheesman, Laura Percy, Sally Moore, Shirley D'Sa, Neil Rabin, and Kwee Yong.

Oral and Poster Abstracts: Health Services and Outcomes Research: Poster III

Time: 6:00 PM-8:00 PM **Location: Hall GH**

Abstract No.: 4201 **Session: 901**

The authors investigate whether changing the dosing schedule of lenalidomide and dexamethasone reduces treatment costs while maintaining efficacy. They find that modifying the dosing schedule to alternate days rather than daily dosing at a lower dose results in a significant cost-saving of £11,905.69 ($19,455.51) per patient treated. By making this treatment more affordable, this dosing strategy may allow access at an earlier stage in treatment by reducing the Incremental Cost-Effectiveness Ratio per Quality Adjusted Life Year gained. Given the similar efficacy to the conventional dosing scheme, this may represent an alternative and more cost effective way of prescribing.

TUESDAY, DECEMBER 13TH

Smoldering Multiple Myeloma (SMM) At High-Risk of Progression to Symptomatic Disease: A Phase III, Randomized, Multicenter Trial Based On Lenalidomide-Dexamethasone (Len-Dex) As Induction Therapy Followed by Maintenance Therapy with Len Alone versus No Treatment

María-Victoria Mateos, Lucía López-Corral, Miguel Hernández, Pilar Giraldo, Javier De La Rubia, Felipe de Arriba, Laura Rosiñol, Juan José Lahuerta, Luis Palomera, Joan Bargay, Albert Oriol, Felipe Prosper, Javier López, Eduardo Olavarría, Maria Luz Martino, Ana-Isabel Teruel, Jose Mariano Hernández, Graça Esteves, Jose Mario J.S. Mariz, Fernando Leal-da-Costa, Adrian Alegre, Jose-Luis Guzman, Ana López de la Guía, Jose Baquero, Nuria Quintana, Jose Luis García, and Jesús F. San Miguel

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Prospective Trials in Plasma Cell Disorders

Time: 7:30 AM **Location: Ballroom 20BC**

Abstract No.: 991 **Session: 653**

MRC Myeloma IX, 6 Year Median Follow-up (FU) Highlights the Importance of Long-Term FU in Myeloma Clinical Trials and Differential Effects of Thalidomide in High- and Low-Risk Disease

Gareth J. Morgan, Faith E. Davies, Walter M. Gregory, Sue E. Bell, Alex J. Szubert, Gordon Cook, Mark T. Drayson, Roger G. Owen, Fiona M. Ross, Graham H. Jackson, and J. Anthony Child.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Prospective Trials in Plasma Cell Disorders

Time: 8:00 AM **Location: Ballroom 20BC**

Abstract No.: 993 **Session: 653**

The results of the long-term analysis of the role of the addition of thalidomide to induction and maintenance therapy will allow for further analysis of the potential for an emergent overall survival (OS) benefit for thalidomide maintenance in the standard-risk disease group. The authors will present this analysis, which will specifically inform how the use of thalidomide as induction and maintenance can impact on OS in standard-risk disease defined by FISH.

Incidence and Prognostic Value of Chromosomal Abnormalities in Elderly Patients with myeloma: The IFM Experience on 1095 Patients

Hervé Avet-Loiseau, Cyrille Hulin, Loic Campion, Murielle Roussel, Gerald Marit, Denis Caillot, Anne-Marie Stoppa, Brigitte Pegourie, Jean-Gabriel Fuzibet, Carine Chateleix, Bruno Royer, Catherine Traulle, Olivier Decaux, Lotfi Benboubker, Philippe Casassus, Margaret Macro, Claire Mathiot, Brigitte Kolb, Jean-Paul Fermand, and Thierry Facon,

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Prospective Trials in Plasma Cell Disorders

Time: 8:15 AM **Location: Ballroom 20BC**
Abstract No.: 994 **Session: 653**

Second Primary Malignancies in Newly Diagnosed Multiple Myeloma Patients Treated with Lenalidomide: Analysis of Pooled Data in 2459 Patients

Antonio Palumbo, Alessandra Larocca, Sonja Zweegman, Giulia Lupparelli, Agostina Siniscalchi, Pellegrino Musto, Moshe Levin, Henk Lokhorst, Sara Grammatico, Lucio Catalano, Roberto Ria, Anna Marina Liberati, Francesca Patriarca, Giulia Benevolo, Antonietta Pia Falcone, Bronno van der Holt, Sylvia Verelst, Davide Rossi, Claudia Crippa, Sara Bringhen, Roman Hajek, Andrew Spencer, Mario Boccadoro, and Pieter Sonneveld.

Oral and Poster Abstracts: Myeloma - Therapy, excluding Transplantation: Prospective Trials in Plasma Cell Disorders

Time: 8:45 AM **Location: Ballroom 20BC**
Abstract No.: 996 **Session: 653**

The authors examine second primary malignancy (SPM) incidence rates in 2459 newly diagnosed MM patients. They find that SPM incidence is lower than expected in all treatment groups and that, at present, the benefits of continuous therapy with lenalidomide outweigh the potential risk of SPMs. Longer follow-up is needed to definitively assess the risk of SPMs in patients receiving lenalidomide with alkylating agents. The authors conclude that, with the limitation of a short follow-up, the numbers currently support a role for non-treatment related factors as causes of SPMs.

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