### Ham-Wasserman Manuscript

1. **Iron and hepcidin: a story of recycling and balance**  
   *Clara Camaschella*

### Choosing Wisely®

9. **The ASH Choosing Wisely® campaign: five hematologic tests and treatments to question**  

### A Fresh Look at Drug Approval: Moving Away from Tradition

15. **Phase 4 research: what happens when the rubber meets the road?**  
   *Mark Crowther*

19. **Drug discovery in rare indications: opportunities and challenges**  
   *Victoria M. Richon*

24. **Accelerating safe drug development: an ideal approach to approval**  
   *Michael R. Grever*

### Advances in Clotting Factors: From Bench to Bedside

30. **Molecular approaches for improved clotting factors for hemophilia**  
   *Randal J. Kaufman and Jerry S. Powell*

37. **Long-lasting recombinant factor VIII proteins for hemophilia A**  
   *Amy D. Shapiro*

44. **The old and new: PCCs, VIIa, and long-lasting clotting factors for hemophilia and other bleeding disorders**  
   *Margaret V. Ragni*

52. **Evidence-Based Mini-Review: What is the role of prophylaxis in the improvement of health-related quality of life of patients with hemophilia?**  
   *David Buchbinder and Margaret V. Ragni*

### Allogeneic Transplantation for High-Risk Myelodysplastic Syndromes and AML

56. **Allogeneic transplantation for AML and MDS: GVL versus GVHD and disease recurrence**  
   *Koen van Besien*

63. **Pharmacological methods to reduce disease recurrence**  
   *Charles Craddock*

70. **Older patients/older donors: choosing wisely**  
   *Andrew S. Artz*
<table>
<thead>
<tr>
<th>Page</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>Aplastic Anemia</td>
<td>Neal S. Young</td>
</tr>
<tr>
<td>82</td>
<td>Allogeneic BM transplantation for the treatment of aplastic anemia: current results and expanding donor possibilities</td>
<td>Gérard Socié</td>
</tr>
<tr>
<td>87</td>
<td>Management of the refractory aplastic anemia patient: what are the options?</td>
<td>Judith C. W. Marsh and Austin G. Kulasekararaj</td>
</tr>
<tr>
<td>95</td>
<td>Bad BUGS: Infections Causing Lymphoma</td>
<td>Heiner Zimmermann and Ralf U. Trappe</td>
</tr>
<tr>
<td>103</td>
<td>Human herpesvirus-8: Kaposi sarcoma, multicentric Castleman disease, and primary effusion lymphoma</td>
<td>Lawrence D. Kaplan</td>
</tr>
<tr>
<td>118</td>
<td>Changing Paradigms in Acute Lymphocytic Leukemia: From the Genome to the Patient</td>
<td>Christine J. Harrison</td>
</tr>
<tr>
<td>126</td>
<td>Pharmacogenomics of acute lymphoid leukemia: new insights into treatment toxicity and efficacy</td>
<td>Mary V. Relling and Laura B. Ramsey</td>
</tr>
<tr>
<td>131</td>
<td>New immune strategies for the treatment of acute lymphoblastic leukemia: antibodies and chimeric antigen receptors</td>
<td>Anjali S. Advani</td>
</tr>
<tr>
<td>138</td>
<td>Chronic Lymphocytic Leukemia: A New Treatment Era Is Born</td>
<td>Michael Hallek</td>
</tr>
<tr>
<td>151</td>
<td>Immunotherapeutic strategies including transplantation: eradication of disease</td>
<td>John G. Gribben and John C. Riches</td>
</tr>
<tr>
<td>158</td>
<td>Treatment of older patients with chronic lymphocytic leukemia: key questions and current answers</td>
<td>Tait Shanafelt</td>
</tr>
<tr>
<td>168</td>
<td>Chronic Myeloid Leukemia: Refining/Redefining the State of the Art</td>
<td>Timothy Hughes and Deborah White</td>
</tr>
<tr>
<td>176</td>
<td>Update on current monitoring recommendations in chronic myeloid leukemia: practical points for clinical practice</td>
<td>Vivian G. Oehler</td>
</tr>
</tbody>
</table>
Evidence-Based Mini-Review: Discontinuation of tyrosine kinase inhibitors in chronic myeloid leukemia: when is this a safe option to consider?  
Kendra Sweet and Vivian Oehler

Alternative approaches to eradicating the malignant clone in chronic myeloid leukemia: tyrosine-kinase inhibitor combinations and beyond  
Wesam Ahmed and Richard A. Van Etten

Clinical Dilemmas in Acute Myeloid Leukemia

High-risk acute myelogenous leukemia: treatment today … and tomorrow  
Gary J. Schiller

Core-binding factor acute myeloid leukemia: can we improve on HiDAC consolidation?  
Peter Paschka and Konstanze Döhner

FLT3 mutations in acute myeloid leukemia: what is the best approach in 2013?  
Mark Levis

Clinical Production and Applications of Natural Killer Cell Immunotherapy

Utilization of mouse models to decipher natural killer cell biology and potential clinical applications  
Can M. Sungur and William J. Murphy

Bringing natural killer cells to the clinic: ex vivo manipulation  
Richard W. Childs and Maria Berg

Therapeutic applications: natural killer cells in the clinic  
Jeffrey S. Miller

Congenital Bleeding Disorders

von Willebrand disease: advances in pathogenetic understanding, diagnosis, and therapy  
David Lillicrap

The hemophilias and their clinical management  
Neil Josephson

Inherited platelet disorders including Glanzmann thrombasthenia and Bernard-Soulier syndrome  
Reyhan Diz-Küçükkaya

Disorders of Platelet Destruction

Current management of immune thrombocytopenia  
Cindy E. Neunert

Evidence-Based Mini-Review: Is anti-D immunoglobulin still a frontline treatment option for immune thrombocytopenia?  
Jenny M. Despotovic and Cindy E. Neunert

Current consideration and management of disseminated intravascular coagulation  
Cheng Hock Toh and Yasir Alhamdi

Thrombotic thrombocytopenic purpura: basic pathophysiology and therapeutic strategies  
James T. B. Crawley and Marie A. Scully
Finding Treatment for the Untreatable: The Power of Chemical Biology

300 Drug discovery in academic institutions
  Stephen V. Frye

306 Antibody-drug conjugates: the chemistry behind empowering antibodies to fight cancer
  Jonathan G. Drachman and Peter D. Senter

311 Opening up drug development to everyone
  Burt Adelman

Genomics in Hematology 101 for the Practicing Clinician

316 ABCs of genomics
  Stefan K. Bohlander

324 Genomic applications in the clinic: use in treatment paradigm of acute myeloid leukemia
  Richard F. Schlenk and Hartmut Döhner

331 Genomic stratification for the treatment of lymphomas
  Sandeep S. Dave

Graft Engineering and Adoptive Immunotherapy: Tackling Resistance

335 Natural killer cells and regulatory T cells: how to manipulate a graft for optimal GVL
  Michael R. Verneris

342 T-cell therapy for viral infections
  Helen E. Heslop and Ann M. Leen

348 T-cell adoptive immunotherapy for acute lymphoblastic leukemia
  Terry J. Fry and Crystal L. Mackall

Hemoglobinopathies: Fresh Ideas for Management

354 Genetic association studies in β-hemoglobinopathies
  Swee Lay Thein

362 Vaso-occlusion in sickle cell disease: pathophysiology and novel targeted therapies
  Deepa Manwani and Paul S. Frenette

370 Allogeneic transplantation strategies including haploidentical transplantation in sickle cell disease
  Eliane Gluckman

HIV in Hematology: What’s New?

377 Pathogenesis and clinical implications of HIV-related anemia in 2013
  Amanda J. Redig and Nancy Berliner

382 Update on the treatment of HIV-associated hematologic malignancies
  Richard F. Little and Kieron Dunleavy

389 Transplantation in HIV-infected subjects: is cure possible?
  John A. Zaia and Stephen J. Forman
Hodgkin Lymphoma: New and Old

394 Novel therapy for Hodgkin lymphoma
   *Connie Lee Batlevi and Anas Younes*

400 Management of early-stage Hodgkin lymphoma: is there still a role for radiation?
   *Peter W. M. Johnson*

406 Lymphocyte-predominant Hodgkin lymphoma: what is the optimal treatment?
   *Michelle Fanale*

Infectious Disease Complications Encountered by the Practicing Hematologist

414 Evidence-based approach to treatment of febrile neutropenia in hematologic malignancies
   *Juan Gea-Banacloche*

423 Treatment of fungal disease in the setting of neutropenia
   *Thomas J. Walsh and Maria N. Gamaletso*

428 Multidrug-resistant bacteria: what is the threat?
   *Matteo Bassetti and Elda Righi*

Management of Sickle Cell Disease

433 Sickle cell disease pain management and the medical home
   *Jean L. Raphael and Suzette O. Oyeku*

439 Transfusion therapy for sickle cell disease: a balancing act
   *Stella T. Chou*

447 Consequences and management of iron overload in sickle cell disease
   *John Porter and Maciej Garbowski*

Management of Thromboembolic Disease

457 The diagnosis and treatment of venous thromboembolism
   *Philip Wells and David Anderson*

464 Pros and cons of new oral anticoagulants
   *Kenneth A. Bauer*

471 Risk assessment for recurrence and optimal agents for extended treatment of venous thromboembolism
   *Giancarlo Agnelli and Cecilia Becatti*

Multiple Myeloma

478 Monoclonal gammopathy of undetermined significance and smoldering multiple myeloma: biological insights and early treatment strategies
   *Ola Landgren*

488 How should we treat newly diagnosed multiple myeloma patients?
   *María-Victoria Mateos and Jesús F. San Miguel*

496 Strategies for induction, autologous hematopoietic stem cell transplantation, consolidation, and maintenance for transplantation-eligible multiple myeloma patients
   *Philip L. McCarthy and Theresa Hahn*
Myelodysplastic Syndromes: What Makes Therapy Effective?
504 Prognostic models in myelodysplastic syndromes
Rafael Bejar

511 Key clinical observations after 5-azacytidine and decitabine treatment of myelodysplastic syndromes suggest practical solutions for better outcomes
Yogen Saunthararajah

522 Who benefits from allogeneic transplantation for myelodysplastic syndromes?: new insights
Uwe Platzbecker

Myeloproliferative Diseases: It’s Not ONLY about JAK
529 JAK inhibition in the myeloproliferative neoplasms: lessons learned from the bench and bedside
Jason Gotlib

538 Focus on the epigenome in the myeloproliferative neoplasms
Eunhee Kim and Omar Abdel-Wahab

545 Beyond JAK inhibitor therapy in myelofibrosis
Olatoyosi Odenike

Non-Hodgkin Lymphomas I: Optimizing Therapy
553 Targeting B-cell receptor signaling: changing the paradigm
Nathan Fowler and Eric Davis

561 Dissecting follicular lymphoma: high versus low risk
Sonali M. Smith

568 Transplantation for mantle cell lymphoma: is it the right thing to do?
Michael E. Williams

Non-Hodgkin Lymphomas II: Breakthroughs in Treatment of High-Grade Lymphomas
575 Understanding MYC-driven aggressive B-cell lymphomas: pathogenesis and classification
German Ott, Andreas Rosenwald, and Elias Campo

584 Treatment strategies for aggressive lymphomas: what works?
Wyndham H. Wilson

591 Targeting the epigenome and other new strategies in diffuse large B-cell lymphoma: beyond R-CHOP
Leandro Cerchietti and John P. Leonard

Pediatric Hematology: Insights Applicable to All!
596 Treatment of infant leukemias: challenge and promise
Patrick Brown

601 Evidence-Based Mini-Review: Does hematopoietic stem cell transplantation benefit infants with acute leukemia?
Edward Allan R. Sison and Patrick Brown

American Society of Hematology
605 Hemophagocytic lymphohistiocytosis: pathogenesis and treatment
   Gritta E. Janka and Kai Lehmberg

612 Novel clinical trials for pediatric leukemias: lessons learned from genomic analyses
   Andrea Biondi and Giovanni Cazzaniga

Sports Medicine in Hematology
620 The use of platelet-rich plasma in the nonsurgical management of sports injuries: hype or hope?
   Kimberly G. Harmon and Ashwin L. Rao

627 Blood manipulation: current challenges from an anti-doping perspective
   Jakob Mørkeberg

632 Sickle cell trait testing and athletic participation: a solution in search of a problem?
   Alexis A. Thompson

Transfusion Medicine
638 Transfusion guidelines: when to transfuse
   Zbigniew M. Szczepiorkowski and Nancy M. Dunbar

645 Hemochromatosis: the new blood donor
   Susan F. Leitman

651 Fresh versus old blood: are there differences and do they matter?
   James C. Zimring

Trauma-Induced Coagulopathy: A Clinical and Scientific Perspective
656 Optimal trauma resuscitation with plasma as the primary resuscitative fluid: the surgeon’s perspective
   John B. Holcomb and Shibani Pati

660 Mechanisms of trauma-induced coagulopathy
   Nathan J. White

664 Resuscitation of trauma-induced coagulopathy
   John R. Hess

Updates in Aggressive Thrombotic Disease
668 Heparin-induced thrombocytopenia
   Grace M. Lee and Gowthami M. Arepally

675 Antiphospholipid syndrome
   Wendy Lim

681 Evidence-Based Mini-Review: Should the presence of an antiphospholipid antibody affect the duration of anticoagulant treatment in patients with venous thromboembolism?
   David A. Garcia and Wendy Lim

684 Cancer-associated thrombosis
   Gregory C. Connolly and Charles W. Francis
Errata

