Novel and Emerging Therapeutic Strategies in the Management of Hematologic Disorder-Related Anemia *(Video Program)*

CME Information

TARGET AUDIENCE

This activity is intended for medical oncologists, hematologists, hematology-oncology fellows and other healthcare providers involved in the treatment of hematologic cancers.

OVERVIEW OF ACTIVITY

Several hematologic disorders are associated with anemia that can be linked to ineffective erythropoiesis. This occurs when the marrow cannot maintain adequate red blood cell production or produces defective or immature cells that are incapable of proper functioning. Myelodysplastic syndromes (MDS), myeloproliferative neoplasms and beta thalassemia are examples of disorders often associated with moderate to severe anemia. Few treatment options are available for inherited and acquired disorders of erythropoiesis, and despite significant research gains many uncertainties and clinical challenges persist in regard to the management of related anemia. Thus it is imperative that the oncology community have access to up-to-date medical education programs designed to comprehensively address current therapeutic approaches and promising research that can facilitate effective clinical decision-making.

To bridge the gap between research and patient care, this program features one-on-one discussions with leading hematology-oncology investigators. Upon completion of this CME activity, medical oncologists and hematologists should be able to formulate an up-to-date and more complete approach to the care of patients with anemia associated with hematologic disorders.

LEARNING OBJECTIVES

- Understand the causes and consequences of blood disorder-associated anemia, and use this information to refine disease management and supportive care of patients.
- Describe the biologic rationale for and mechanism of action of erythroid maturation agents (EMAs) in the treatment of anemia secondary to select hematologic disorders, including MDS, beta thalassemia and myelofibrosis.
- Appraise emerging clinical data with the EMA luspatercept in preparation for its potential availability for the management of beta thalassemia and/or low-risk MDS.
- Recognize the importance of screening for iron overload in transfusion-dependent patients, and develop a systematic approach for initiating and delivering iron chelation therapy.
- Analyze the biologic basis for and early research data with gene-based therapies for beta thalassemia.

ACCREDITATION STATEMENT

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CREDIT DESIGNATION STATEMENT

Research To Practice designates this enduring material for a maximum of 2.25 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AMERICAN BOARD OF INTERNAL MEDICINE (ABIM) — MAINTENANCE OF CERTIFICATION (MOC)

Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 2.25 Medical Knowledge MOC points in the American Board of Internal Medicine's (ABIM) Maintenance of Certification (MOC) program. Participants will earn MOC points equivalent to the amount of CME credits claimed for the activity. It is the CME activity provider's responsibility to submit participant completion information to ACCME for the purpose of granting ABIM MOC credit.

Please note, this program has been specifically designed for the following ABIM specialties: **medical oncology** and **hematology.**

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HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should review the CME information, watch the video, complete the Post-test with a score of 80% or better and fill out the Educational Assessment and Credit Form located at **ResearchToPractice.com/Anemia19/Video/CME**. The corresponding audio program is available as an alternative at **ResearchToPractice.com/Anemia19**.

CONTENT VALIDATION AND DISCLOSURES

Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess conflicts of interest with faculty, planners and managers of CME activities. Conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

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

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Hardware/Software Requirements:
A high-speed Internet connection
A monitor set to 1280 x 1024 pixels or more
Internet Explorer 11 or later, Firefox 56 or later,
Chrome 61 or later, Safari 11 or later, Opera 48 or later
Adobe Flash Player 27 plug-in or later
Adobe Acrobat Reader
(Optional) Sound card and speakers for audio

Release date: July 2019

Expiration date: July 2020

Select Publications

A phase I/II study evaluating safety and efficacy of autologous hematopoietic stem cells genetically modified with GLOBE lentiviral vector encoding for the human beta-globin gene for the treatment of patients affected by transfusion dependent beta-thalassemia. NCT02453477

A phase 3, open-label, randomized study to compare the efficacy and safety of luspatercept (ACE-536) versus epoetin alpha for the treatment of anemia due to IPSS-R very low, low or intermediate risk due to myelodysplastic syndrome (MDS) ESA in native subjects who require red blood cell transfusions. NCT03682536

Angelucci E et al. **Safety and efficacy, including event-free survival, of deferasirox versus placebo in iron-overloaded patients with low- and int-1-risk myelodysplastic syndromes (MDS): Outcomes from the randomized, double-blind Telesto study.** *Proc ASH* 2018;**Abstract 234**.

Cappellini MD et al. **Sotatercept, a novel transforming growth factor β ligand trap, improves anemia in β-thalassemia: A phase II, open-label, dose-finding study.** *Haematologica* 2019;104(3):477-84.

Cappellini M et al. **The BELIEVE trial: Results of a phase 3, randomized, double-blind, placebo-controlled study of luspatercept in adult beta-thalassemia patients who require regular red blood cell (RBC) transfusions.** *Proc ASH* 2018;**Abstract 163**.

Cappellini M, Motta I. **New therapeutic targets in transfusion-dependent and -independent thalassemia.** *Hematology Am Soc Hematol Educ Program* 2017;2017(1):278-83.

Diaz AE, Mesa RA. **Pacritinib and its use in the treatment of patients with myelofibrosis who have thrombocytopenia.** *Future Oncol* 2018;14(9):797-807.

Dussiot M et al. **Modulation of activin signaling by RAP-011 (ActRIIA-IgG1) improve anemia, increases hemoglobin levels and corrects ineffective erythropoiesis in β-thalassemia.** *Proc ASH* 2012;**Abstract 247**.

Fenaux P et al. **The MEDALIST trial: Results of a phase 3, randomized, double-blind, placebo-controlled study of luspatercept to treat anemia in patients with very low-, low-, or intermediate-risk myelodysplastic syndromes (MDS) with ring sideroblasts (RS) who require red blood cell (RBC) transfusions.** *Proc ASH* 2018;**Abstract 1**.

Harrison CN et al. **Momelotinib versus best available therapy in patients with myelofibrosis previously treated with ruxolitinib (SIMPLIFY 2): A randomised, open-label, phase 3 trial.** *Lancet Haematol* 2018;5(2):e73-81.

Harrison CN et al. **Janus kinase-2 inhibitor fedratinib in patients with myelofibrosis previously treated with ruxolitinib (JAKARTA-2): A single-arm, open-label, non-randomised, phase 2, multicentre study.** *Lancet Haematol* 2017;4(7):e317-24.

Komrokji R et al. **Sotatercept with long-term extension for the treatment of anaemia in patients with lower-risk myelodysplastic syndromes: A phase 2, dose-ranging trial.** *Lancet Haematol* 2018;5(2):e63-72.

Migdady Y et al. **Clinical outcomes with ring sideroblasts and SF3B1 mutations in myelodysplastic syndromes: MDS Clinical Research Consortium analysis.** *Clin Lymphoma Myeloma Leuk* 2018;18(8):528-32.

Park S et al. **Outcome of lower-risk patients with myelodysplastic syndromes without 5q deletion after failure of erythropoiesis-stimulating agents.** *J Clin Oncol* 2017;35(14):1591-7.

Shammo JM, Komrokji RS. **Clinical consequences of iron overload in patients with myelodysplastic syndromes: The case for iron chelation therapy.** *Expert Rev Hematol* 2018;11(7):577-86.

Thompson AA et al. **Gene therapy in patients with transfusion-dependent β-thalassemia.** *N Engl J Med* 2018;378(16):1479-93.

Verstovsek S et al. **Long-term survival in patients treated with ruxolitinib for myelofibrosis: COMFORT-I and -II pooled analyses.** *J Hematol Oncol* 2017;10(1):156.

Verstovsek S et al; COMFORT-I Investigators. **Long-term treatment with ruxolitinib for patients with myelofibrosis: 5-year update from the randomized, double-blind, placebo-controlled, phase 3 COMFORT-I trial.** *J Hematol Oncol* 2017;10(1):55.

Zeidan AM et al. **Comparison of clinical outcomes and prognostic utility of risk stratification tools in patients with therapy-related vs de novo myelodysplastic syndromes: A report on behalf of the MDS Clinical Research Consortium.** *Leukemia* 2017;31(6):1391-7.

Zeidan AM et al. **Therapy-related myelodysplastic syndromes-specific risk stratification: Are we putting the cart before the horse?** *Leukemia* 2017;31(11):2539-41.