Myeloproliferative Neoplasms Update

Issue 1, 2019

(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

Myeloproliferative neoplasms (MPNs) largely consist of 3 diseases all heralding from clonal disorders in which an initial molecular event results in excessive production of blood cells. Importantly, although essential thrombocythemia (ET), polycythemia vera (PV) and myelofibrosis (MF) are clinically distinguishable by laboratory and molecular parameters, they may represent a disease continuum whereby transformation from ET or PV to the more aggressive MF results in a homogenous pathologic entity with a uniformly poor prognosis. In contrast to the rather indolent natural history of untransformed ET and PV, primary MF or post-PV/ET MF is a debilitating disease. Historically no FDA-approved therapy existed, but after the FDA approval of ruxolitinib in 2011 for intermediate- and high-risk MF, including primary, post-PV and post-ET MF, this agent has rapidly been adopted in clinical practice. Patient selection and dosing of ruxolitinib remain relevant topics of discussion and debate. Not surprisingly, JAK inhibitors have been and continue to be critically evaluated for patients with both PV and ET. Most notably, in December 2014, the US FDA approved ruxolitinib as treatment for PV in patients who have experienced an inadequate response to or are intolerant of hydroxyurea. To bridge the gap between research and patient care, this issue of *Myeloproliferative Neoplasms Update* 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 MPNs.

LEARNING OBJECTIVES

- Appraise the evidence-based therapeutic options for patients with PV, ET and MF, and develop clinical algorithms intended to enhance quality and quantity of life for these individuals.
- Determine the role of ruxolitinib in the treatment of MF in patients with thrombocytopenia and anemia.
- Formulate a plan for managing the side effects associated with ruxolitinib to support quality of life and continuation of treatment.
- Recall emerging research data with the use of novel JAK inhibitors in the treatment of MF, and prepare for their potential availability in clinical practice.
- Appreciate the biologic rationale for and available efficacy and safety data with novel agents under investigation for the treatment of MPNs.

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Successful completion of this CME activity, which includes participation in the evaluation component, enables the participant to earn up to 2.75 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, these programs have been specifically designed for the following ABIM specialties: **medical oncology** and **hematology**.

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or better and fill out the Educational Assessment and Credit Form located at **ResearchToPractice.com/MPNUpdate119/Video/CME**. The corresponding audio program is available as an alternative at **ResearchToPractice.com/MPNUpdate119**.

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

Ruben A Mesa, MD
Director
Mays Cancer Center at UT Health
San Antonio MD Anderson
Mays Family Foundation Distinguished University
Presidential Chair
Professor of Medicine
San Antonio, Texas

Consulting Agreements: AOP Orphan, Novartis, Sierra Oncology; **Contracted Research:** AbbVie Inc, Celgene Corporation, Genentech, Incyte Corporation.

Aaron T Gerds, MD, MS
Assistant Professor of Medicine
Cleveland Clinic Lerner College of Medicine
Staff, Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio

Advisory Committee: Apexx Oncology, Celgene Corporation, CTI BioPharma Corp.

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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

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Expiration date: May 2020

Select Publications

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.

Gisslinger H et al. **Final results from PROUD-PV a randomized controlled phase 3 trial comparing ropeginterferon alfa-2b to hydroxyurea in polycythemia vera patients.** *Proc ASH* 2016;**Abstract 475**.

Gowin KL et al. **Survival advantage to allogeneic transplant in patients with myelofibrosis with intermediate-1 or higher DIPSS score.** *Proc ASH* 2018;**Abstract 4288**.

Gupta V et al. **The impact of anemia on overall survival in patients with myelofibrosis treated with ruxolitinib in the COMFORT studies.** *Haematologica* 2016;101(12):e482-4.

Harrison CN et al. **Comprehensive haematological control with ruxolitinib in patients with polycythaemia vera resistant to or intolerant of hydroxycarbamide.** *Br J Haematol* 2018;182(2):279-84.

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.

Harrison CN et al. **Ruxolitinib vs best available therapy for ET intolerant or resistant to hydroxycarbamide.** *Blood* 2017;130(17):1889-97.

Mascarenhas J et al. **Outcomes of patients with myelofibrosis treated with compassionate use pacritinib: A sponsor-independent international study.** *Ann Hematol* 2018;97(8):1369-74.

Mascarenhas J et al. **Pacritinib vs best available therapy, including ruxolitinib, in patients with myelofibrosis: A randomized clinical trial.** *JAMA Oncol* 2018;4(5):652-9.

Mascarenhas J et al. **Open label phase I study of single agent oral RG7388 (idasanutlin) in patients with polycythemia vera and essential thrombocythemia.** *Proc ASH* 2017;**Abstract 254**.

Menghrajani K et al. **Predictive models for splenic response to JAK-inhibitor therapy in patients with myelofibrosis.** *Leuk Lymphoma* 2018;[Epub ahead of print].

Mesa RA et al. **Impact on MPN symptoms and quality of life of front line pegylated interferon alpha-2a vs hydroxyurea in high risk polycythemia vera and essential thrombocythemia: Results of Myeloproliferative Disorders Research Consortium (MPD-RC) 112 global phase III trial.** *Proc ASH* 2018;**Abstract 3032**.

Mesa RA. **Refining the management of polycythemia vera.** *Clin Adv Hematol Oncol* 2018;16(9):587-9.

Mesa RA et al. **Pacritinib versus best available therapy for the treatment of myelofibrosis irrespective of baseline cytopenias (PERSIST-1): An international, randomised, phase 3 trial.** *Lancet Haematol* 2017;4(5):e225-36.

Mesa RA et al. **SIMPLIFY-1: A phase III randomized trial of momelotinib versus ruxolitinib in Janus kinase inhibitor-naïve patients with myelofibrosis.** *J Clin Oncol* 2017;35(34):3844-50.

Mughal TI et al. **Precision immunotherapy, mutational landscape, and emerging tools to optimize clinical outcomes in patients with classical myeloproliferative neoplasms.** *Hematol Oncol* 2018;36(5):740-8.

Oh ST et al. **Hepcidin suppression by momelotinib is associated with increased iron availability and erythropoiesis in transfusion-dependent myelofibrosis patients.** *Proc ASH* 2018;**Abstract 4282**.

O'Sullivan JM, Harrison CN. **JAK-STAT signaling in the therapeutic landscape of myeloproliferative neoplasms.** *Mol Cell Endocrinol* 2017;451:71-9.

Pardanani A et al. **Safety and efficacy of fedratinib in patients with primary or secondary myelofibrosis: A randomized clinical trial.** *JAMA Oncol* 2015;1(5):643-51.

Scherber RM, Mesa RA. **Managing myelofibrosis (MF) that "blasts" through: Advancements in the treatment of relapsed/refractory and blast-phase MF.** *Hematology Am Soc Hematol Educ Program* 2018;2018(1):118-26.

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. **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.