Myeloproliferative Neoplasms Update

Volume 1, Issue 1 (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 disease entities, 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 based on 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 similarly 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 MF, post-PV MF 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 patients with PV 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

- Use an understanding of disease biology and natural history to diagnose primary PV, ET and MF and communicate prognosis to patients.
- Consider 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 patients with these distinct yet related diseases.
- Appraise the role of ruxolitinib for patients with MF and thrombocytopenia, anemia and compromised renal function.

ACCREDITATION STATEMENT

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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 1.25 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 specialty: **medical oncology**.

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HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should 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/MPNUpdate117/Video/CME**.

CONTENT VALIDATION AND DISCLOSURES

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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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Advisory Committee: Celgene Corporation, Gilead Sciences Inc, Novartis, Sanofi Genzyme; **Contracted Research:** Celgene Corporation, Gilead Sciences Inc, Incyte Corporation, Janssen Biotech Inc, Novartis; **Speakers Bureau:** Gilead Sciences Inc, Incyte Corporation, Novartis, Sanofi Genzyme.

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EDITOR — **Dr Love** is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Acerta Pharma, Adaptive Biotechnologies, Agendia Inc, Agios Pharmaceuticals Inc, Amgen Inc, Ariad Pharmaceuticals Inc, Array BioPharma Inc, Astellas Pharma Global Development Inc, AstraZeneca Pharmaceuticals LP, Baxalta Inc, Bayer HealthCare Pharmaceuticals, Biodesix Inc, bioTheranostics Inc, Boehringer Ingelheim Pharmaceuticals Inc, Boston Biomedical Pharma Inc, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, CTI BioPharma Corp, Dendreon Pharmaceuticals Inc, Eisai Inc, Exelixis Inc, Foundation Medicine, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Halozyme Inc, ImmunoGen Inc, Incyte Corporation, Infinity Pharmaceuticals Inc, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, administered by Janssen Scientific Affairs LLC, Jazz Pharmaceuticals Inc, Kite Pharma Inc, Lexicon Pharmaceuticals Inc, Lilly, Medivation Inc, a Pfizer Company, Merck, Merrimack Pharmaceuticals Inc, Myriad Genetic Laboratories Inc, NanoString Technologies, Natera Inc, Novartis, Novocure, Onyx Pharmaceuticals, an Amgen subsidiary, Pharmacyclics LLC, an AbbVie Company, Prometheus Laboratories Inc, Puma Biotechnology Inc, Regeneron Pharmaceuticals Inc, Sanofi Genzyme, Seattle Genetics, Sigma-Tau Pharmaceuticals Inc, Sirtex Medical Ltd, Spectrum Pharmaceuticals Inc, Taiho Oncology Inc, Takeda Oncology, Tesaro Inc, Teva Oncology and Tokai Pharmaceuticals Inc.

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This activity is supported by an educational grant from Incyte Corporation.

Hardware/Software Requirements:
A high-speed Internet connection
A monitor set to 1280 x 1024 pixels or more
Internet Explorer 7 or later, Firefox 3.0 or later, Chrome, Safari 3.0 or later
Adobe Flash Player 10.2 plug-in or later
Adobe Acrobat Reader
(Optional) Sound card and speakers for audio

Last review date: October 2017

Expiration date: October 2018

Select Publications

Arber DA et al. **The 2016 revision to the World Health Organization classification of myeloid neoplasms and acute leukemia.** *Blood* 2016;127(20):2391-405.

Barbui T et al. **Development and validation of an International Prognostic Score of thrombosis in World Health Organization-essential thrombocythemia (IPSET-thrombosis).** *Blood* 2012;120(26):5128-33.

Barosi G et al. **Revised response criteria for polycythemia vera and essential thrombocythemia: An ELN and IWG-MRT consensus project.** *Blood* 2013;121(23):4778-81.

Genovese G et al. **Clonal hematopoiesis and blood-cancer risk inferred from blood DNA sequence.** *N Engl J Med* 2014;371(26):2477-87.

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. **JAK inhibitors truly changing the therapeutic paradigm in myelofibrosis.** *J Med Econ* 2016;19(4):443-4.

Klampfl T et al. **Somatic mutations of calreticulin in myeloproliferative neoplasms.** *N Engl J Med* 2013;369(25):2379-90.

Nangalia J et al. **Somatic CALR mutations in myeloproliferative neoplasms with nonmutated JAK2.** *N Engl J Med* 2013;369(25):2391-405.

Ortmann CA et al. **Effect of mutation order on myeloproliferative neoplasms.** *N Engl J Med* 2015;372(7):601-12.

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

Passamonti F et al. **ReTHINK: A randomized, double-blind, placebo-controlled, multicenter, phase 3 study of ruxolitinib in early myelofibrosis patients.** *Proc ASCO* 2016;**Abstract TPS7080**.

Rampal R, Mascarenhas J. **Pathogenesis and management of acute myeloid leukemia that has evolved from a myeloproliferative neoplasm.** *Curr Opin Hematol* 2014;21(2):65-71.

Scherber RM et al. **Comprehensively understanding fatigue in patients with myeloproliferative neoplasms.** *Cancer* 2016;122(3):477-85.