blood® Editorial

Introduction to a review series on myelodysplastic syndromes in the age of genomic medicine

When the French-American-British (FAB) Cooperative Group published its proposals for the classification of acute leukemias in 1976, the authors described "a range of conditions associated with bone marrow hypercellularity in which confusion with acute myeloid leukemia is possible."[1(p457)] They initially named these conditions "dysmyelopoietic syndromes," indicating that the most common types were refractory anemia with excess blasts and chronic myelomonocytic leukemia. A few years later (1982), the FAB Group developed a formal classification of these disorders, which were named myelodysplastic syndromes (MDSs) and included the following: refractory anemia, refractory anemia with ring sideroblasts, refractory anemia with excess of blasts, chronic myelomonocytic leukemia, and refractory anemia with excess of blasts in transformation.[2] The FAB Group classification was entirely based on morphologic criteria; cytogenetics was only mentioned as a discipline that could "provide recognition of correlations."

Forty years after the publication of the first classification of MDS,[2] *Blood* has conceived a review series that illustrates the impressive advances in our understanding of these disorders in the age of genomic medicine.[3] The following articles are included:

- Lachelle D. Weeks and Benjamin L. Ebert, "Causes and consequences of clonal hematopoiesis"
- Robert P. Hasserjian, Ulrich Germing, and Luca Malcovati, "Diagnosis and classification of myelodysplastic syndromes"
- Amy E. DeZern and Peter L. Greenberg, "The trajectory of prognostication and risk stratification for patients with myelodysplastic syndromes"
- Eva S. Hellström-Lindberg and Nicolaus Kröger, "Clinical decision-making and treatment of myelodysplastic syndromes"

Weeks and Ebert summarize the current understanding of the nosology and origins of clonal hematopoiesis. Then, they provide an overview of available tools for risk stratification and discuss management strategies for patients presenting to hematology clinics with this condition.[4] DeZern and Greenberg describe the progressive evolution and improvement of clinical prognostic scoring systems for MDS, focusing on the current Molecular International Prognostic Scoring System.[5] Hasserjian, Germing, and Malcovati examine the current MDS classification schemes (ie, the International Consensus Classification and fifth edition World Health Organization Classification), both published in 2022.[6,7] They underline the increasing importance of genomic profiling for clinical decision-making in MDS.[8] Hellström-Lindberg and Kröger underline that therapeutic decision-making includes identifying risk, symptoms, and options for the individual patient and performing a risk-benefit analysis. They conclude that a precision medicine approach is needed to improve patient outcomes.

I hope that these articles will help the readers of *Blood* improve their knowledge of clonal hematopoiesis and MDS.

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