Book Review

***Acute Myelogenous Leukemia*, edited by Judith Karp, MD**

Totowa, NJ: Humana Press, 2007.
Hardcover, 440 pp., \$149.00.

Reviewed by Barry Cooper, MD

A *cute Myelogenous Leukemia*, edited by Judith E. Karp, MD, of Johns Hopkins University, is a multiauthored textbook directed towards the hematologist managing acute leukemia

rather than the general medical oncologist or internist. It focuses on new approaches, both practical and theoretical, based on laboratory data as well as clinical studies. In the preface, Dr. Karp states that the emphasis of the book is to “bring new concepts and findings in the basic and clinical science of AML together under one cover.” This objective is accomplished in three parts.

Part I is an overview chapter approaching AML from a biologic perspective. In Part II, six chapters cover the molecular foundation of AML, focusing on pathogenesis and physiology. Information on therapy-induced AML and myelodysplasia-related AML are particularly relevant. The multistep cellular changes that are noted when AML evolves from myelodysplasia or prior cytotoxic therapy provides insight into the complex

process of leukemogenesis. Mechanisms of DNA damage, aberrant transcription factors, altered apoptosis, and drug resistance mediated by transporter proteins are all reviewed.

Part III of the text addresses the translation of AML biology into clinical applications. One chapter deals with the impact of cytogenetics on the clinical outcome of AML. Another chapter reviews one of the major success stories of AML, the identification of the PML-RAR alpha translocation of acute promyelocytic leukemia. In this case, basic science advances led directly to the most effective therapy identified for any subtype of AML. As Dr. Karp notes, this “bench to bedside” story exemplifies molecular medicine at its finest.

Part IV deals with evolving molecular target approaches for AML that have not yet made their way into standard AML therapy. These agents interact with specific signal transduction effectors such as FLT-3, as well as farnesyl transferase, histone deacetylase, and DNA methyltransferases. These approaches focus on overcoming the blockade to differentiation that characterizes leukemia cells. Special challenges in treating children, adolescents, and older adults are reviewed in the final part of the textbook.

This textbook includes up-to-date, well-referenced chapters, although obviously newer research and clinical studies are rapidly appearing in the literature. It is a welcomed edition to provide specific information and reference data for hematologists who specialize in AML management.

The reviewer, **Barry Cooper, MD**, is a hematologist/oncologist on the medical staff of Baylor University Medical Center.