Acute Myeloid Leukemia: A Classification and Treatment Update

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Approximately 11,000 Americans will be diagnosed with acute myeloid leukemia (AML) in 2003, and about 75% ultimately will die from the disease. Despite significant advances in understanding biologic, molecular, and cytogenetic aspects of this malignancy, several other areas remain poorly understood. During the 1990s, significant advances in the characterization of this condition have shown that AML affects elderly patients more frequently. Treatment of patients in this age group poses a greater challenge partly because of increased tumor resistance and the presence of multiple medical comorbidities that may contraindicate therapy. New therapeutic approaches are promising and have renewed enthusiasm and optimism among patients and healthcare providers. Future treatment strategies for patients with AML most likely will include combinations of biologic agents with defined molecular targets (e.g., monoclonal antibodies, retinoids, hypomethylating agents, tyrosine kinase inhibitors).

Key Words: acute myeloid leukemia, treatment, classification, new therapies

Case Study

Mr. S, a 36 year-old man, noticed generalized weakness in September 1980. His medical history showed only a mitral valve pro-