Advances in the Management of Acute Myeloid Leukemia in Older Adult Patients

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Acute myeloid leukemia (AML) is a group of clonal hematopoietic stem cell disorders characterized by overproliferation of undifferentiated myeloid cells, known as myeloblasts. AML is the most common form of acute leukemia in adults, accounting for 25% of leukemias in this population in the Western world (Deschler & Lubbert, 2006). An estimated 12,810 new cases were diagnosed and 9,000 deaths recorded in the United States in 2009 (American Cancer Society, 2009). The incidence of AML is expected to increase as a result of the aging of the population, a rise in secondary cases from environmental exposures, and wider recognition that low blood counts may be indicative of a bone marrow disorder rather than a normal consequence of aging (Sekeres, 2006; Stone, 2002). Left untreated, AML ultimately is fatal from complications of bone marrow failure, typically occurring within one year of diagnosis (Estey, 2006).

Two systems have been used to classify hematopoietic malignancies (National Comprehensive Cancer Network [NCCN], 2009). The older French-American-British classification consists of eight AML subtypes based on cell morphology (Bennett et al., 1985). Using these criteria, AML is diagnosed when a bone marrow aspirate reveals the presence of 30% or more blasts. The World Health Organization (WHO) classification (Harris et al., 1999) includes newer prognostic factors, such as molecular markers, chromosome translocations, and evidence of dysplasia, which might predict responsiveness to treatment. Using the WHO criteria, AML is diagnosed if 20% or more blasts are present in the bone marrow.

Acute Myeloid Leukemia in Older Adult Patients

AML is considered to be a disease afflicting an older adult population, one with a median age of 67 years at

Purpose/Objectives: To update oncology nurses on new developments in the care of older adult patients with acute myeloid leukemia (AML).

Data Sources: Clinical trial data, published guidelines, review articles, and conference proceedings.

Data Synthesis: Therapies for older adult patients with AML include cytarabine-based intensive-induction chemotherapy, investigational therapy, and supportive care. Nonmyeloablative allogeneic hematopoietic stem cell transplantation may provide the best opportunity for cure following remission if a human leukocyte antigen–matched hematopoietic stem cell donor is available. Careful assessment of patient- and disease-related factors is critical in determining the appropriate treatment modality for individuals. Assessment tools and algorithms may identify patients likely to be intolerant of intensive therapies. Supportive care may improve treatment tolerance and quality of life.

Conclusions: Survival outcomes have not improved significantly for older adult patients with AML. Novel therapies, coupled with better understanding of prognostic factors, may allow more highly individualized care. Performance status or comorbidity score may provide insights regarding outcome, particularly when combined with age, cytogenetic risk, or molecular markers. Efforts to improve transplantation safety may increase use in the older adult patient population.

Implications for Nursing: Nurses provide disease and treatment information, manage adverse effects, and offer emotional support. Knowledge of the key management issues for older adult patients with AML is critical in fulfilling this role.

the time of diagnosis (National Cancer Institute [NCI], 2008b). Compared with their younger counterparts (patients younger than 60 years), older adult patients with AML have poorer survival outcomes (see Figure 1). Although patients younger than 45 experience a five-year overall survival of 38%, the rate declines to 8% in patients aged 60–69 years and abruptly falls to 0% for those 80 years or older (Farag et al., 2006; NCI, 2008b). Treatment responses also are inferior for older adult