

Intensive chemotherapy may be harmful to most older patients with acute myeloid leukemia

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The prognosis for nearly three-quarters of elderly patients on intensive chemotherapy for acute myeloid leukemia (AML) is poor, with a median survival of less than six months, according to a study published online today in *Blood*, the journal of the American Society of Hematology. AML is the most common form of acute leukemia among adults and is a rapidly growing cancer of the bone marrow that requires immediate treatment. The average age at diagnosis is 67, and more than 12,000 people will be diagnosed with AML this year (according to the National Cancer Institute).

"Recent studies have suggested that intensive chemotherapy might benefit elderly patients with AML, but we found that not to be the case," said Hagop Kantarjian, MD, Chairman of the Leukemia Department at The University of Texas M. D. Anderson Cancer Center in Houston and senior author of the study. "Patients who did not have any of the eight-week mortality predictors we identified in the study may benefit from the more intense treatment, but for the majority of AML patients of advanced age, lower-intensity treatments are a better, less risky option."

Symptoms of AML include fever, frequent infections, tiredness, pale skin, shortness of breath, easy bleeding or bruising, and pain in the bones or joints. Because the disease develops rapidly, doctors usually begin treatment immediately after diagnosis. Treatments for AML include chemotherapy or a transplant with [blood cells](#) obtained from the

circulating blood or cord blood, though, for most elderly patients, the risks of serious side effects eliminate transplant as a viable option.

As most clinical trials of AML thus far have excluded patients older than 55, physicians have had to infer that treatments that work for younger patients will work for older patients, too. In this study, researchers focused on older patients with AML in order to provide more conclusive information about treatment among this population. Researchers analyzed 446 patients with AML age 70 or older who were given a cytarabine-based intensive chemotherapy regimen between 1990 and 2008. For nearly half of the patients, the therapy was successful in combating the cancer, with 45 percent achieving a complete remission. However, 154 patients (some who were in remission as well as some who were not) died during the first eight weeks after treatment began. Causes of death included both treatment toxicity and ineffective therapy leading to disease progression. The researchers analyzed the patients to identify those most at risk for this eight-week mortality rate and found the following predictive factors:

- age greater than 80 years
- three or more genetic abnormalities
- poor performance as indicated by an ECOG score of 2-4 (Developed by the Eastern Cooperative Oncology Group, a score of zero on this scale indicates a fully active individual with no signs of disease, while a score of five indicates death.)
- creatinine levels greater than 1.3 mg (Creatinine levels are an indicator of kidney function, the organ that filters the blood.)

The more of these factors patients had, the poorer their survival outcome

with intensive chemotherapy. Among those who did not have any of these risk factors (28 percent), only 16 percent had an eight-week mortality rate as compared with a 71 percent mortality rate among patients with three or more adverse factors (9 percent).

"When doctors and patients are discussing intensive chemotherapy as a treatment option for AML, they must take these mortality risk factors into consideration to determine whether the patient is likely to benefit from this type of treatment," said Dr. Kantarjian.

Provided by American Society of Hematology

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