Drug combination highly effective for newly diagnosed myeloma patients, study finds

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(Medical Xpress) -- A three-drug combination treatment for the blood cancer multiple myeloma compares favorably to the best established therapy for newly diagnosed patients, according to a multi-center study led by Andrzej Jakubowiak, MD, PhD, professor of medicine and director of the multiple myeloma program at the University of Chicago Medical Center.

Jakubowiak will present final results of the phase I-II study on Dec. 12, 2011, at the American Society of Hematology (ASH) Annual Meeting and Exposition in San Diego, Calif. The initial results from phase I of this study were presented at the ASH Meeting 2010 and were selected for the Best of ASH 2010 session.

The combination includes a newer investigational medicine called carfilzomib combined with two standard medications: lenalidomide, an analogue of thalidomide, and low-dose dexamethasone, an anti-inflammatory with anti-cancer properties.

"This combination appears to deliver everything we expected and more," said Jakubowiak, who came to the University of Chicago this fall from the University of Michigan. "We have seen excellent efficacy -- the best reported to date -- without the neurotoxicity that has been problematic with other drug combinations."

Multiple myeloma is a type of cancer that arises in plasma cells, the bone marrow component that produces antibodies. The American Cancer Society estimates that about 20,520 Americans will be diagnosed with multiple myeloma in 2011 and 10,610 will die from the disease.

The research team enrolled 53 people at three different carfilzomib dose levels. Most patients responded quickly to the combination and continued to improve with additional treatment cycles.

After at least one 28-day cycle, 94 percent had a partial response -- at least a 50 percent reduction of the disease. After at least four cycles, all patients had a partial response. After 12 cycles or more, 100 percent of patients had a "very-good partial response," defined as a 90 percent reduction of disease, and four out of five patients showed little or no sign of cancer.

"These response rates are higher than those achieved by the best established regimens for newly diagnosed multiple myeloma," Jakubowiak said.

After a median follow-up of nine and a half months, all patients were alive and only one patient's cancer had progressed. The three-drug combination was overall well-tolerated, with few serious side effects. The side effect that typically limits extended treatment for multiple myeloma -- peripheral neuropathy, numbness or tingling of the fingers and toes that can progress to significant pain -- was infrequent and mild.

The study included patients who were eligible for a bone marrow transplant using their own stem cells, but it offered a deferred-transplant approach and only two patients chose that option. Most patients remained on the three-drug treatment and achieved responses similar to or better than those observed after a stem cell transplant. They are still eligible for a stem cell transplant if their disease becomes resistant to the drug combination.

"Newly diagnosed myeloma is most sensitive to treatment," Jakubowiak said. "A great and sustained response in the initial phase of treatment, as is the case in this study, typically projects longer remission, and possibly longer overall survival."

Carfilzomib has recently emerged as an important experimental medicine in the treatment of multiple myeloma. It is a proteasome inhibitor, a drug that interferes with the mechanism that cells use to get

rid of unneeded or defective proteins. Because myeloma cells develop from antibody-producing white blood cells, they are "protein factories." Blocking their efforts to get rid of dysfunctional proteins can lead to cell death.

The Multiple Myeloma Research Consortium, Onyx Pharmaceuticals Inc., Celgene Corp. and the University of Michigan funded the study.

More information: Presentation: 53nd American Society of Hematology Annual Meeting and Exposition, Dec. 10-13, 2010, Orlando, Fla. 631 - Final Results of a Frontline Phase 1/2 Study of Carfilzomib, Lenalidomide, and Low-Dose Dexamethasone (CRd) in Multiple Myeloma (MM). Monday, December 12, 2011: 2:45 PM, Ballroom 20D (San Diego Convention Center).

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