

# Hematopoietic stem cell transplant improves survival for multiple myeloma patients

June 13, 2018

Researchers at UC Davis have confirmed that autologous hematopoietic stem cell transplant improves survival for people suffering from multiple myeloma, yet many potentially eligible patients never undergo the procedure.

Using data from two extensive California databases, the team showed median overall survival for transplant patients was around 73 months, while controls who did not receive the procedure lived around 50 months. The study was published June 11 in the *Journal of the National Cancer Institute*.

“Using the California Cancer Registry, combined with a statewide hospital discharge database in California, we showed there’s a significant improvement in survival in those patients who get a stem cell transplant compared to those who don’t,” said Aaron Rosenberg, assistant professor in the Division of Hematology and Oncology. “Transplants decreased the risk of dying by almost 20 percent.”

Multiple myeloma is challenging to treat, in part because the median age of diagnosis is 69 and many patients have other conditions and may have trouble tolerating aggressive therapies.

This new population study sought to determine whether autologous stem cell transplants, in which blood-forming stem cells are removed and ultimately returned to the same patient, continue to be a useful treatment. Over the past two decades, new classes of drugs, such as proteasome inhibitors, immunomodulatory agents and monoclonal antibodies, have shown

great effectiveness. Some oncologists have suggested these newer approaches, along with a robust drug-development pipeline, can replace transplants, which are preceded by massive chemotherapy doses that can take a great toll on patients.

“There’s still a debate within the oncology community whether stem cell transplant should always be used, should always be avoided or how we should choose patients,” said Rosenberg.

To help settle this debate, Rosenberg, Ted Wun, chief of the Division of Hematology and Oncology, and colleagues collected data from the California Cancer Registry and the California Patient Discharge Database on 13,494 multiple myeloma patients younger than 80 who were diagnosed between 1998 and 2012. Among this group, 20.8 percent of patients received transplants. The procedure was more common in younger patients, 37.6 percent in patients younger than 60, and 11.5 percent in those 60 to 79.

Transplants improved survival in all age groups, and their effectiveness did not decrease during the study’s timeframe, even though new drugs were being introduced.

“If the newer agents were making the transplants less relevant, you would expect to see a decrease in efficacy across various areas of treatment, and we didn’t see that at all,” said Rosenberg. “Stem cell transplants are at least as effective as they were in the early 2000s.”

The authors were surprised to find that transplants have been used so sparingly. They hope this new data will spur further research to identify barriers and encourage oncologists to reconsider the approach.

“This is ongoing evidence the procedure is important and useful in an era when newer treatments are available. Patients still need to be considered for stem cell transplant,” said Rosenberg. “It’s not for everyone, but that decision needs to

be made with a keen eye towards the benefits and risks.”

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