

Fewer platelets could be used for some cancer and bone-marrow transplantation patients

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Physicians may be able to safely lower the platelet dosage in transfusions for cancer and bone-marrow transplant patients without risking increased bleeding, according to new research involving UT Southwestern Medical Center and 28 other medical institutions.

Reducing platelet transfusions, and lowering the threshold on when to administer transfusions could help address frequent shortages in platelet supplies, said Dr. Victor Aquino, associate professor of pediatrics and an author of the study appearing in The [New England Journal of Medicine](#).

Blood platelet shortages are a big problem in blood banking. So the question is: 'Can you use fewer platelets to achieve the same effect, thereby helping to alleviate that problem?'" said Dr. Aquino, also a [bone-marrow transplant](#) physician at Children's Medical Center Dallas. "The basic conclusion of the research was that fewer platelets could be used and that would have a societal benefit because, by using less platelets for oncology patients, more platelets would be available to other people who needed them."

Platelet [blood cells](#) help control bleeding, so patients with low platelet counts bleed easily. Typical patients with low platelet counts include those with [acute myeloid leukemia](#) (a type of bone marrow cancer), aplastic anemia, some congenital diseases and those undergoing chemotherapy treatments. Platelets for this large patient community can be stored only about five days so supplies constantly must be replenished, Dr. Aquino noted.

The multicenter study followed 1,272 patients who received at least one transfusion between 2004 and 2007. Patients randomly assigned low, medium (standard) or higher doses all reported similar bleeding and other adverse events. The low dose saved about a third of platelets when compared with the medium dose.

Researchers also found that they could use a lower threshold of platelets per cubic millimeter to trigger the need for transfusions. Many bone marrow transplant patients receive transfusions every other day, while other types of cancer patients may have transfusions every one or two weeks, Dr. Aquino said.

"If the number is too low, then we give them platelets. The threshold we were using was 20,000 per cubic millimeter. But in this study they used 10,000, and the subjects didn't have much bleeding, so one of the things we have learned is that we may be able to give fewer transfusions," Dr. Aquino said. "At some point the patient will become resistant to [platelets](#) and so the fewer transfusions you use, the better it can be for the patient."

Provided by UT Southwestern Medical Center

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