

Old Blood as Good as Fresh



A large clinical trial provides reassuring evidence about the safety of blood routinely transfused to critically ill patients, with data showing that blood stored for three weeks is just as good as fresh blood. The findings are published online in *The New England Journal of Medicine*.

A team of researchers from 64 Canadian and European centres conducted the Age of Blood Evaluation (ABLE) study, a randomised double-blind trial to compare mortality after 90 days in intensive care patients transfused with either fresh blood (stored for an average of six days) or older blood (stored for an average of 22 days). The study covered 2,430 adults, including 1,211 patients in the fresh blood group and 1,219 in the older blood group.

Study results showed that 423 patients died within 90 days post-transfusion in the group of patients who received fresh blood, compared to 398 patients who died in the group that received older blood.

"There was no difference in mortality or organ dysfunction between the two groups, which means that fresh blood is not better than older blood", explains Dr. Dean Fergusson, a senior scientist at the Ottawa Hospital Research Institute and the University of Ottawa.

According to current standards, blood is stored up to 42 days. However, many doctors have begun to ask for fresh blood in recent decades, thinking that it is the right thing to do. This is made difficult because of a limited supply and because blood collection agencies and hospital blood banks distribute blood on a "first-in, first-out" basis to avoid wastage.

"Current blood bank practice is to provide patients with the oldest blood available. Some doctors, however, feel that fresh blood is better", says Dr. Paul Hébert, an intensive care physician-scientist at the Centre de Recherche du CHUM and professor at the Université de Montréal.

As Dr. Alan Tinmouth, a physician and scientist at the Ottawa Hospital Research Institute and the University of Ottawa, points out: "Previous observational and laboratory studies have suggested that fresh blood may be better because of the breakdown of red blood cells and accumulation of toxins during storage. But this definitive clinical trial clearly shows that these changes do not affect the quality of blood."

Blood transfusions save lives, affirm the researchers. "There is no need to worry about the safety of the age of blood routinely used in hospitals," they add.

The same research team is conducting a clinical trial in paediatric patients. "This study should verify whether children react to fresh blood and older blood transfusions in the same way as adults", says Dr. Jacques Lacroix of Sainte-Justine University Hospital Research Center and professor at the Université de Montréal.

Source: [Universite de Montreal](#)

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