

## AABB Guideline for Platelet Transfusions



The AABB, formerly the American Association of Blood Banks, has developed a guideline on appropriate use of platelet transfusion in adult patients. The new guideline published in the *Annals of Internal Medicine* emphasises judicious use of the procedure to reduce patient risk and conserve resources.

The guideline was developed following a systematic review of the literature on platelet transfusions. Richard M. Kaufman, MD, director of adult transfusion medicine at Brigham and Women's Hospital and assistant professor of pathology at Harvard Medical School in Boston (MA, USA), and colleagues reviewed randomised clinical trials and observational studies that reported clinical outcomes.

The panel of 21 experts developed recommendations based on a grading system. The group included pathologists, haematologists, a cardiac surgeon, a neurosurgeon, an anaesthesiologist, a critical care specialist, and a grading methodologist. They finalised six recommendations: a strong one based on moderate-quality evidence, four weak ones based on low-quality evidence, and an uncertain one based on low-quality evidence.

### Prophylactic Platelet Transfusion to Reduce Risk of Spontaneous Bleeding

In the strong recommendation, the AABB urges prophylactic transfusion of platelets to reduce the risk of spontaneous bleeding in hospitalised adult patients with therapy-induced hypoproliferative thrombocytopenia and a morning platelet count of  $10 \times 10^9$  cells/L or less. The panel says that lower doses equal to one half of a standard apheresis unit are equally effective as higher doses.

An analysis of three randomised clinical trials involving 1,047 hospitalised patients with haematologic malignancy revealed that prophylactic platelet transfusions nearly halved the risk for spontaneous grade 2 or higher bleeding (odds ratio [OR] 0.53; 95 percent confidence interval [CI], 0.32 - 0.87).

Meanwhile, data from four randomised controlled trials involving 658 patients showed that a greater platelet threshold was not associated with lower incidence of grade 2 or higher bleeding (OR, 0.74; 95 percent CI, 0.41 - 1.35) or with bleeding-related mortality (OR, 0.37; 95 percent CI, 0.02 - 9.22). The  $10 \times 10^9$  threshold was associated with lower platelet usage and fewer transfusion reactions.

### Second Recommendation Supported by Observational Data

The second recommendation urges the use of prophylactic platelet transfusion for patients having elective central venous catheter placement with a platelet count less than  $20 \times 10^9$  cells/L. Although the recommendation is weak and based on low-quality evidence, panel members found enough observational data to support it.

"We did find that for the specific case of cancer treatment patients that were undergoing central line replacement that the group felt existing observational data published were sufficiently compelling to recommend a relatively low platelet transfusion threshold, one that's a bit lower than has been used by other groups, at  $20 \times 10^9$  cells per litre for that specific procedure," Dr. Kaufman pointed out. "We think that that will simultaneously reduce transfusion risk, as well as [conserve] platelet resources, without really affecting the risk of adverse bleeding events."

The panel found several randomised controlled trials in the specific area of therapy-induced hypoproliferative thrombocytopenia. "(But) we were surprised at the limited data available for other areas, and we think this is a real opportunity for future study," Dr. Kaufman added.

### The First Guideline on Platelet Transfusion

This is the AABB's first guideline on platelet transfusion, Dr. Kaufman said, and this effort took more than two years. "AABB has put out guidelines on plasma transfusion and red cell transfusion, but this is the first platelet guideline from them."

He explained that retaining platelets is an expensive and difficult proposition for hospitals. Platelet bags are "only good on the shelf for five days, and infectious disease testing has to be done, so the real shelf life for a bag of platelets is only about three days. It's incredibly difficult for a hospital to keep these in inventory in enough supply to be able to provide to the patient. This is different from red cells that are kept in the fridge for up to six weeks and plasma that's kept frozen for up to a year."

Source: Medscape.com

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