Medscape Medical News > Conference News

Platelet Transfusion Harmful in ICH Patients on Antiplatelets

Sue Hughes  
May 12, 2016

BARCELONA — Giving platelet transfusions to patients presenting with an intracerebral hemorrhage (ICH) who are taking antiplatelets agents is associated with worse outcomes, according to results of a new randomized trial. The Platelet Transfusion in Cerebral Haemorrhage (PATCH) trial was presented here this week at the European Stroke Organisation Conference (ESOC) 2016 by Yvo B. Roos, PhD, Academic Medical Centre, Amsterdam, the Netherlands. The trial was also simultaneously published online May 10 in The Lancet. "Our results show that when you see a patient with ICH who is on anti-platelet therapy you should not treat with platelet transfusions," Dr Roos told Medscape Medical News. "We have very clear results showing a worse outcome if they are given platelets compared with no treatment." Commenting on these findings, conference chair, Kennedy Lees, MD, University of Glasgow, United Kingdom, called them "powerful." "This trial is telling us very clearly something that we didn't know — to avoid platelet transfusions in patients with ICH on antiplatelet agents," he told Medscape Medical News. "It is a very powerful result." Dr Roos explained that giving platelets to patients experiencing an ICH who are taking anti-platelet agents seems like a logical thing to do. Observational studies have shown encouraging results, but there have been no randomized studies. He estimated that around 25% of such patients currently receive platelet transfusions. The PATCH trial was a multicenter, open-label, masked-endpoint, randomized trial at 60 hospitals in the Netherlands, United Kingdom, and France. The trial included 190 patients within 6 hours of supratentorial ICH symptom onset if they had used anti-platelet therapy for at least 7 days beforehand and had a Glasgow coma scale score of at least 8. With use of a secure web-based system that concealed allocation, they were randomly assigned to receive standard care or standard care with platelet transfusion within 90 minutes of diagnostic brain imaging. Most (71 of the 97) patients receiving antiplatelet agents were taking aspirin. The dose of platelets used was 1 unit of platelet concentrate; patients on clopidogrel received 2 units. Participants and local investigators giving interventions were not masked to treatment allocation, but allocation was concealed from outcome assessors and investigators analyzing data. The primary outcome was shift toward death or dependence, rated on the modified Rankin Scale (mRS) at 3 months, analyzed by ordinal logistic regression, and adjusted for stratification variables and the Intracerebral Hemorrhage Score. Results showed that the odds of death or dependence at 3 months were higher in the platelet transfusion group than in the standard care group (adjusted common odds ratio [OR], 2.05; 95% confidence interval [CI], 1.18 - 3.56; P = .0114). In a secondary analysis, more participants in the platelet transfusion group had a poor outcome, with an mRS score of 4 to 6 at 3 months, compared with those in the standard care group: 72% vs 56% (OR, 2.04; 95% CI, 1.12 - 3.74; P = .0195). Serious adverse events during the hospital stay occurred in 42% of patients who received platelet transfusions and 29% of those who received standard care. In-hospital mortality was 24% in participants assigned to platelet transfusion and 17% in those assigned to standard care. Survival and the proportion of participants with an mRS score of 3 to 6 at 3 months did not significantly differ between groups, nor did ICH growth at 24 hours. Dr Roos noted that a similar trial is ongoing in Finland, and he urged the investigators to perform an interim analysis after the PATCH results. He acknowledged that the results of the PATCH trial were counterintuitive, but it was important to pay attention to randomized data. He says the practice of giving platelets to patients with ICH taking antiplatelets was "quite common, particularly in the US." "They think it is a logical thing to do. And it is," he commented to Medscape Medical News. "I participated in a debate a couple of years ago at a major international stroke conference, and many people in the audience were very much in favor of treating these patients with platelet infusions, and some were going as far saying it was unethical not to treat them," he said. "In fact, when I applied for funding in 2008 for this study, one of the reviewers said the trial was outrageous. He said we didn't have to prove that water is wet. But what we have shown is that actually water is not always wet." On the mechanism behind the harmful effect, Dr Roos said this was unknown, but he pointed out that transfusion experts have acknowledged that patients receiving platelet transfusions represent the smallest group of transfusion patients but have the largest amount of problems. "It might not be just about clotting. They can have pro-inflammatory effects as well. We need to study this further." In the Lancet paper, the authors conclude: "Given the widespread use of platelet transfusion for other acute bleeding disorders despite a shortage of randomized evidence, our findings should lead to further trials so that this potentially hazardous and costly intervention is only used for prophylactic or therapeutic indications when supported by evidence from randomized controlled trials." In an accompanying editorial, Calin I. Prodan, MD, University of Oklahoma Health Sciences Center, Oklahoma City, points out that the study has several limitations, such as relatively small sample size, a potential for chance imbalances in several prognostic variables, and an inability to analyze the relationship between the intervention and several subtypes of severe adverse events. "However, these data, generated from what is an important, pragmatic real-life trial done in emergency settings, provide strong support against the use of routine platelet transfusion as a treatment option for acute intracerebral haemorrhage after anti-platelet therapy," he states. Dr Prodan concludes that: "Although another trial awaiting completion might support or challenge the findings of PATCH, for now, more is not better (and it may well be worse) for platelets in intracerebral haemorrhage."

The Netherlands Organization for Health Research and Development, Sanquin Blood Supply, Chest Heart and Stroke Scotland, and French Ministry of Health supported the study. Dr Roos and Dr Prodan have disclosed no relevant financial relationships. Disclosures for study coauthors appear in the publication.

European Stroke Organization Conference (ESOC) 2016. Presented May 10, 2016.

Lancet. Published online May 10, 2016. Abstract Editorial