Title: ACC.24: Restrictive Vs Liberal Blood Transfusion in MI Patients: MINT
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"I'm Andrew DeFilippis from the Vanderbilt University Medical Centre.

Context of the Study

Yeah, that's a great question. So we know that anaemia is common in myocardial infarction, and while we have trial data to establish transfusion thresholds for many patient populations, the data really does not exist for the acute myocardial infarction patient with anaemia. And that was the context for which the MINT trial was performed, where we randomised 3504 patients with acute MI and anaemia to a restrictive versus a liberal transfusion strategy.

Objective of the Subgroup Analysis

So we know that type one and type two MI are different pathophysiologically, we know that the patients that present with type one or type two MI are also different, and so it's reasonable to think that transfusion would affect those patients differently. So the objective of this subgroup analysis was to look at the efficacy of a restrictive versus a liberal transfusion pattern in type one, type two MI patients with anaemia.

Findings

Overall, type one and type two MI patients had similar primary outcomes. Our primary outcome was death or MI at 30 days. It was high for both, 15% for type one and 16% for type two, and the same for both of them. But when we looked at comparing does the restrictive versus the liberal transfusion strategy act differently in a type one MI patient versus a type two MI patient population, we found some interesting findings.

So, first of all, in the type one MI patient population, there were more primary events at 30 days, 18.2% for patients with type one MI, compared to 13.8% for those with type one MI randomised to the liberal transfusion strategy. And that gave us a relative risk of 1.32 and a confidence interval that didn't cross one. We didn't see that for type two MI; we saw similar event rates of death or MI at 30 days, but really no difference between the restrictive and liberal transfusion strategy. So that was a very interesting finding in itself.

Statistical Analysis and Implications

However, when we look at the gold standard or the statistical analysis of whether this transfusion strategy treats the type one and type two MI patient populations differently, meaning are they responding differently, that test of interaction was not significant at a p-value of 0.16. So a little bit of inconclusive data there. I think what it tells us is we didn't prove that one transfusion strategy is better than the other in type one or type two MI. But certainly, we have seen data, and this is consistent with the overall results of the MINT trial, that the data does raise concern that a restrictive transfusion strategy may be harmful compared to a liberal transfusion strategy in patients with acute MI and anaemia, and with this subgroup analysis, may be particularly so in patients with type one MI.

Future Directions

Yeah, I think there's been really good trial data in many patient populations that over the last many years have established a restrictive transfusion strategy appropriately in many patient populations, but specifically for acute MI and anaemia, this data raises concern that this may not be appropriate, particularly for type one MI patients. We need to continue to investigate this issue and really work to find what is the most efficacious transfusion threshold for type one and type two acute MI patients. Yeah, I think that we need to understand transfusion in these different MI types better and not only just type one and type two, but other MI characteristics, the size of the MI, ST elevation or not MI. And that's kind of ongoing research that we have from the rich data set that's been

created by the MINT trial, and we look forward to doing those analyses and getting that information widely disseminated."