

Meta-Analysis on ANH & RAP on Reducing Allogeneic Blood Transfusions

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Abstract

Background: Perioperative allogeneic red blood cell transfusions have been associated with increased hospital costs, morbidity, and mortality in patients post cardiac surgery. It was hypothesized that acute normovolemic hemodilution and retrograde autologous prime can decrease allogeneic blood transfusions in cardiac surgery patients in the perioperative period.

Methods: A meta-analysis was done to determine the efficacy of ANH in reducing perioperative allogeneic blood transfusions. Seven studies were chosen and included adult and pediatric cardiac surgery to assess the efficacy of ANH with a total sample size of 38,360 participants. A second meta-analysis was done to determine the efficacy of RAP in reducing perioperative allogeneic blood transfusions in adult cardiac surgery patients. Seven studies were chosen with a total sample size of 23,868 participants. The article search was conducted through the Quinnipiac University's, Arnold Bernhard, and Netter Health Science Library from May 2020 to September 2020.

Results: The ANH group received allogeneic blood transfusions an average of 69.8% of the time when compared to the control group which received them 100% of the time and was found to be statistically significant with a p-value of 0.004. It was determined the RAP group received allogeneic blood transfusions 14.6% of the time when compared to the control group which received them 30% of the time and was found to be statistically significant with a p-value of 0.03.

Conclusion: The results suggest that ANH and RAP are safe and effective blood conservation techniques for patients undergoing cardiac surgery in reducing allogeneic blood transfusions. A strong association between reduction in allogeneic blood transfusions in the perioperative period was appreciated with the use of ANH and RAP.

This is an abstract from Marie's presentation at the 42nd Annual Seminar of The American Academy of Cardiovascular Perfusion.

To view her full presentation, click [here](#).