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Executive Summary

Executive Summary of Recommendations and Expert Consensus for Plasma and Platelet Transfusion Practice in Critically Ill Children: From the Transfusion and Anemia EXpertise Initiative—Control/Avoidance of Bleeding (TAXI-CAB)

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the Pediatric Critical Care Transfusion and Anemia EXPertise Initiative—Control/Avoidance of Bleeding (TAXI-CAB), in collaboration with the Pediatric Critical Care Blood Research Network (BloodNet), and the Pediatric Acute Lung Injury and Sepsis Investigators (PALISI) Network

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Transfusion and Anemia EXpertise Initiative—Control/Avoidance of Bleeding (TAXI-CAB) Members are listed in **Appendix 1**.

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Abstract

OBJECTIVES:

Critically ill children frequently receive plasma and platelet transfusions. We sought to determine evidence-based recommendations, and when evidence was insufficient, we developed expert-based consensus statements about decision-making for plasma and platelet transfusions in critically ill pediatric patients.

DESIGN:

Systematic review and consensus conference series involving multidisciplinary international experts in hemostasis, and plasma/platelet transfusion in critically ill infants and children (Transfusion and Anemia EXpertise Initiative—Control/Avoidance of Bleeding [TAXI-CAB]).

SETTING:

Not applicable.

PATIENTS:

Children admitted to a PICU at risk of bleeding and receipt of plasma and/or platelet transfusions.

INTERVENTIONS:

None.

MEASUREMENTS AND MAIN RESULTS:

A panel of 29 experts in methodology, transfusion, and implementation science from five countries and nine pediatric subspecialties completed a systematic review and participated in a virtual consensus conference series to develop recommendations. The search included MEDLINE, EMBASE, and Cochrane Library databases, from inception to December 2020, using a combination of subject heading terms and text words for concepts of plasma and platelet transfusion in critically ill children. Four graded recommendations and 49 consensus expert statements were developed using modified Research and Development/UCLA and Grading of Recommendations, Assessment, Development, and Evaluation methodology. We focused on eight subpopulations of critical illness (1, severe trauma, intracranial hemorrhage, or traumatic brain injury; 2, cardiopulmonary bypass surgery; 3, extracorporeal membrane oxygenation; 4, oncologic diagnosis or hematopoietic stem cell transplantation; 5, acute liver failure or liver transplantation; 6, noncardiac surgery; 7, invasive procedures outside the operating room; 8, sepsis and/or disseminated intravascular coagulation) as well as laboratory assays and selection/processing of plasma and platelet components. In total, we came to consensus on four recommendations, five good practice statements, and 44 consensus-based statements. These results were further developed into consensus-based clinical decision trees for plasma and platelet transfusion in critically ill pediatric patients.

CONCLUSIONS:

The TAXI-CAB program provides expert-based consensus for pediatric intensivists for the administration of plasma and/or platelet transfusions in critically ill pediatric patients. There is a pressing need for primary research to provide more evidence to guide practitioners.

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