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Transfusion and postoperative outcome in Pediatric Abdominal Surgery: Is transfusion a morbidity factor in Pediatric Abdominal surgical patients?**Claudine Kumba, Querciagrossa S, Blanc T and Tréluyer JM**
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Background: Intraoperative and postoperative Morbi-mortality factors are multiple in pediatric patients. Studies in pediatric cardiac surgery and intensive care patients have identified transfusion as one independent factor among others. This study was undertaken to investigate whether transfusion was an independent factor of Morbi-mortality in pediatric abdominal surgical patients.

Objectives: To identify Morbi-mortality risk factors in intraoperatively transfused and not transfused pediatric abdominal surgical patients.

Design: Retrospective observational descriptive pediatric cohort study.

Setting: Monocentric pediatric tertiary center, Necker Enfants Malades University Hospital Paris, from 1 January 2014 to 17 Mai 2017.

Patients: 193 patients with a median age of 27.5 months [1.0-100.5] were included. Inclusion criteria were the presence or the absence of transfusion in the intraoperative period in abdominal surgery patients. Exclusion criterion was transfusion in the postoperative period until discharge from Hospital and non-abdominal surgical patients.

Main outcome measures: Primary outcome was mortality and secondary outcome was morbidity in transfused and non-transfused patients. Mortality was assessed by deaths occurring intraoperatively or postoperatively during the entire hospitalization. Morbidity was assessed by intraoperative, postoperative complications, repeat surgery, length of stay in the intensive care unit, in the hospitalization ward, total length of stay in hospital and length of mechanical ventilation.


Results: Transfusion was the independent predictive risk factor for postoperative complications (odds ratio 1.14; p-value 0.02) and an independent predictive risk factor for repeat surgery (odds ratio 1.11; p-value 0.01). Emergency surgery was an independent predictive risk factor for repeat surgery (odds ratio 5.63; p-value 0.01). Transfusion, age, emergency surgery and ASA score status were independent predictive risk factors for length of stay in the intensive care unit, total length of hospital stay and length of mechanical ventilation (p-value<0.01).

Conclusion: Transfusion was identified as an independent morbidity risk factor among others in this pediatric population. Identifying these factors in order to implement improvement measures can upgrade patient postoperative outcome. One of these measures is to implement transfusion protocols in which blood product administration is guided by point of care devices such as viscoelastic methods which can contribute to reduce transfusion intraoperatively in potential hemorrhagic surgical interventions.

Speaker Biography

Claudine Kumba graduated as a Medical Doctor in 2001 and completed her specialization in Anesthesiology in 2006 at the Free University of Brussels (ULB, Université Libre de Bruxelles). She has a Paediatric Anaesthesia specialisation graduation since 2010 from the University of Aix-Marseille, Marseille, France. She has a Critical Care Medicine specialization graduation since 2014 from the University of Montpellier 1, Montpellier, France. She is a paediatric anaesthesiologist in Necker Sick Children's University Hospital in Paris, France. She has 12 publications and 17 citations. She is a member of the European Society of Paediatric Anaesthesiology (ESPA), the French Society of Anaesthesia and Critical Care (SFAR, Société Française d'Anesthésie-Réanimation) and the French Association for Paediatric Anaesthesiologists and Intensivists (ADARPEF, Association d'Anesthésistes et Réanimateurs Pédiatriques d'Expression Française) and the Belgian Association for Paediatric Anaesthesiology (BAPA).

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