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Europe: Wide Variation in Severe Critical Events in Paediatric Anaesthesia

A Europe-wide observational study of anaesthesia practice in children has shown wide variation in severe critical events and a higher incidence than previously understood. The study was run by the European Society of Anaesthesiology and the results are published in *Lancet Respiratory Medicine*.

The Anaesthesia PRACTICE In Children Observational Trial (APRICOT) included data from 261 centres across 33 countries that performed 31,127 perioperative anaesthetic procedures for 30,874 children from birth to 15 years of age. Data was collected on severe critical events, namely occurrence of respiratory, cardiac, allergic or neurological complications requiring immediate intervention that led or could have led to major disability and/or death.

Experience and Volume Count

There was a 20 to 30-time variation in incidence of severe critical events between the countries involved. More than 5% of children undergoing anaesthesia experienced at least one severe critical event. In 17% of these, additional anaesthesia treatments, prolonged treatment in hospital, or both were needed.

The incidence of perioperative severe critical events was 5.2% (95% CI 5.0-5.5). Respiratory critical events were highest at 3.1%, followed by cardiovascular instability (1.9%), and were more frequent in children aged up to 6 years.

The researchers found statistical evidence that experienced paediatric anaesthesiologists and teams with a higher volume of paediatric cases had significantly fewer severe critical events. Lead Investigator, Prof. Walid Habre, Head, Unit for Anaesthesiological Investigations, Senior Consultant Paediatric Anaesthesia, Geneva University Hospitals, Geneva, Switzerland, said that the study's findings reinforce the urgent need to elaborate and implement standardised training programmes and good clinical practice guidelines for paediatric anaesthesia management throughout Europe. The investigators suggest that the results also emphasise the need to establish a European register to monitor peri-anaesthetic morbidity and mortality in children. They recommend that below 3 years of age, children should be managed by more specialist services and centralisation of care may also be necessary for the youngest and most ill infants.

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