Fantoms

Ben J Stenson, *Edition Editor*

DIAGNOSIS AND MANAGEMENT OF CONGENITAL DIAPHRAGMATIC HERNIA

Editor's choice for this issue is the updated guideline from the Canadian Congenital Diaphragmatic Hernia Collaborative. This is a very comprehensive document with a rigorous methodology that updates the previous version published in 2018. The revision incorporates new evidence to inform 20 changes to existing recommendations including aspects related to prenatal diagnosis, echocardiographic evaluation, pulmonary hypertension management, surgical readiness criteria, the type of surgical repair and long-term health surveillance. 15 new care recommendations were also created, with most related to the management of pain and the provision of analgesia and neuromuscular blockade. It is worth a careful read and has too much detail to summarise fully here. It is now recommended that fetal endoscopic tracheal occlusion should be discussed with the parents of all severe cases and should be considered an option for moderately severe cases. There is increased enthusiasm for the use of prostaglandin E1 infusions in cases with severe pulmonary hypertension and caution against routine pre-operative neuromuscular blockade. An accompanying editorial from Dick Tibboel commends the article as a guide for current practice and as an evidence statement that will provide a reference point for future research questions that will require international collaboration to achieve higher levels of evidence. ***See pages F239 and F230***

PAEDIATRIC INTENSIVE CARE ADMISSIONS OF PRETERM CHILDREN BORN <32 WEEKS GESTATION

Many former preterm infants require later admission to paediatric intensive care but what is the risk? Tim J van Hasselt and colleagues investigated the risk of admission to paediatric intensive care units (PICUs) of children born very preterm following discharge home from neonatal care using data linkage of the National Neonatal Research Database and the Paediatric Intensive Care Audit Network datasets. They included children born very preterm between 1 January 2013 and 31 December 2018 and admitted to all neonatal units in England and Wales. Of the 40 690 children discharged home from neonatal care, there were 2308 children (5.7%) with at least one admission to PICU after discharge. The percentage of children with unplanned PICU admission varied by gestation, from 10.2% of children born<24 weeks to 3.3% born at 31 weeks. The observed mortality within PICU for children of all gestations was 2.4% (n=56). ***See page F265***

MATERNAL TREATMENT WITH SELECTIVE SEROTONIN REUPTAKE INHIBITORS DURING PREGNANCY AND DELAYED NEONATAL ADAPTATION

This study by Marie-Coralie Cornet and colleagues analysed a retrospective population-based birth cohort of 280 090 term infants born at 15 Kaiser Permanente Northern California hospitals, 2011–2019. 7573 (2.7%) infants were exposed to SSRIs in late pregnancy. Delayed neonatal adaptation (at least one of: 5 min Apgar score≤5; positive pressure ventilation or intubation during delivery room resuscitation; or admission to the NICU with respiratory distress requiring invasive or non-invasive ventilation) occurred in 11.2% of exposed vs 4.4% of unexposed infants - relative risk 2.52 (95% CI 2.36 to 2.70). There was a similar effect on all of the individual components of the primary outcome. It is important to balance this concern against the benefits of treatment to mothers. According to the authors, assuming causality, treatment of 22 pregnant individuals with SSRIs would result in one additional case of delayed neonatal adaptation, treatment of 40 individuals would incur one additional NICU admission and treatment of more than 500 individuals would result in one additional case of mechanical ventilation, pulmonary hypertension or HIE. ***See page F294***

LATE SURFACTANT ADMINISTRATION AFTER 48 HOURS OF AGE IN PRETERM NEONATES WITH RESPIRATORY INSUFFICIENCY

This systematic review and meta-analysis by Gonzalo Solis-Garcia and colleagues considered the role of surfactant treatment administered to preterm infants beyond 48 hours of life in the prevention of a primary composite outcome of death or BPD at 36 weeks. Four randomised controlled trials that were considered to have low risk of bias were identified and these enrolled 850 preterm infants. Meta-analysis showed, without heterogeneity that there was no effect of surfactant treatment on the primary outcome or its components. ***See page F301***

PROPHYLACTIC CYCLO-OXYGENASE INHIBITOR DRUGS FOR THE PREVENTION OF MORBIDITY AND MORTALITY IN EXTREMELY PRETERM INFANTS

This guideline, incorporating family values and preferences in decision making, uses rigorous methodology to addresses the wide variation in practice regarding the use of prophylactic cyclo-oxygenase inhibitors for the prevention of morbidity and mortality in preterm infants. There is a conditional recommendation in favour of the use of prophylactic indomethacin in infants at highest risk of adverse outcome but not ibuprofen or acetaminophen. An ongoing area of uncertainty relates to the competing benefits of early steroids and the caution against co-administration of steroids and indomethacin. This is challenging to resolve, particularly with the more recent evidence for and growing popularity of early prophylactic hydrocortisone. ***See page F232***