P-007  Current trends in pediatric tracheostomies
Division of Pediatric Surgery, St. Marianna University School of Medicine, Kawasaki, Japan, Division of Pediatric Surgery, St. Marianna University, Yokohama City Seibu Hospital
Hiroaki Kitagawa, Munechika Wakisaka, Hideki Shima, Shio Hamano, Hideaki Sato, Shigeyuki Furuta, Hirokazu Kawase, Hideki Nagae

Purpose: To review our experience with tracheostomy and evaluate changes in the age at tracheostomy and the long-term outcome. Materials and Methods: Children undergoing tracheostomy between 1990-2007 were identified. Indications, complications and outcomes were evaluated. Results: We reviewed the charts of 112 children who received a tracheostomy in our hospital and affiliated hospitals. Sixty-seven (60%) survived. Nineteen patients received their tracheostomy between 1990-1995 (Group A), 30 between 1996-2001 (Group B) and 53 between 2002-2007 (Group C). Tracheostomy was created in children <1 year old in 52 patients (46%), there being 14 such patients in Group B, increasing to 25 in Group C. Thirty two (62%) were <2500 g at birth and 12 (23%) were <1000 g. Indications for tracheostomy were: Neurological disorders 57 (51%), upper airway pathology 24 (21%), congenital anomaly 12 (11%), neuromuscular disease 9 (8%), and cervical mass including lymphangioma 10 (9%). Only 4 (3%) were for emergency airway management. There were no acute hemorrhage or pneumothorax complications. Fifteen (13%) tracheostomies were able to be closed but most are permanent. Most of the neurological impairment patients went home after tracheostomy. Conclusions: The most common indication for tracheostomy was cerebral palsy. The number of tracheostomy patients is increasing and 62% of them are born prematurely. This may be related to improved survival of extremely low birth-weight infants with multiple congenital anomalies from our Neonatal Intensive Care Unit.

---

P-008  An association of gastroschisis and fatal respiratory distress
Division of General Surgery, National Center for Child Health and Development, Division of Neonatology, National Center for Child Health and Development
Nobuyuki Morikawa, Toshiro Honna, Tatsuo Kuroda, Yushi Ito, Tomoo Nakamura, Miki Noya, Hideaki Tanaka, Hajime Takayasu, Akihiro Fujino

Background: Although an association of gastroschisis and respiratory distress at birth has been reported previously, the clinical cause for this association has not been established. We present a neonate with gastroschisis and evidence of bile aspiration in utero, who developed severe respiratory distress immediately after birth.

Case report: A female infant weighing 1836 g was born at 35 weeks' gestation via cesarean delivery. Prenatal MRI and ultrasound revealed gastroschisis, but did not detect any pulmonary lesions. Apgar scores were 4 at one minute and 5 at five minutes. Chest radiograph showed poorly expanded lung fields and patchy interstitial opacification. She was immediately intubated followed by intensive respiratory care with high-frequency oscillatory ventilation, surfactant replacement, and inhaled nitric oxide. The amniotic fluid was bile-stained, but did not contain thick meconium. The umbilical cord and placenta were stained with bile. These findings suggested bile acid pneumonia. Surgical repair of the gastroschisis with Silastic sleeve was performed on day 1 followed by abdominal closure on day 16 after transient improvement of respiratory condition with steroid administration. However, her respiratory condition worsened with an intractable pneumothorax and uncontrollable pulmonary hypertension. The infant died on day of life 94.

Conclusion: Although rare, severe respiratory distress in newborn gastroschisis patients may be due to bile aspiration in utero. Given the poor outcome in this case, we suggest a possible role for prenatal diagnosis and therapy.