neurodevelopmental follow-up to determine their long term outcomes.

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INCIDENCE, RISK FACTORS AND SEVERITY OF PULMONARY MORBIDITY IN INFANTS WITH CONGENITAL DIAPHRAGMATIC HERNIA BORN IN HIGH-VOLUME CENTRES IN EUROPE

L. van den Hout[1], I. Reiss[1], T. Schaible[2], I. Capolopu[3], A. van Heijst[4], M. Gorett Silva[5], K. Allegaert[6], A. Greenough[7], D. Tibboel[1]

[1]Intensive Care and Paediatric Surgery, ErasmusMC-Sophia, Rotterdam, The Netherlands, [2]Paediatric Intensive Care, Universitätsklinikum Mannheim, Mannheim, Germany, [3]Paediatric Intensive Care, Bambino Gesù Children's Hospital, Rome, Italy, [4]Neonatal Intensive Care, UMCN st Radboud, Nijmegen, The Netherlands, [5]Paediatric Intensive Care, Hospital S Joao, Porto, Portugal, [6]Neonatal Intensive Care, Universiteitsziekenhuis Gasthuisberg, Leuven, Belgium, [7]Neonatal Intensive Care, King's College, London, UK

Background and aims: Newborns with congenital diaphragmatic hernia (CDH) may develop chronic lung disease (CLD). Our aim was to determine the incidence, severity and risk factors of CLD in infants with CDH.

Methods: Data were collected about 426 CDH patients born between 2005 and 2008 at 8 high-volume centres (> 10 admissions of infants with CDH per year) in Europe. The primary endpoint was CLD, defined as oxygen dependency at day 28. The severity of CLD (mild: FiO_2 0.21; moderate: FiO_2 0.22-0.29; severe: $FiO_2 \geq 0.30$ or CPAP/mechanical ventilation) was determined at day 56 or at discharge, whichever came first.

Results: At day 28, the mortality rate was 28% and the CLD incidence was 31%. Of all patients with CLD, 31% had severe CLD, 15% moderate CLD and 54% had mild CLD. Compared to patients without CLD, patients with CLD had a lower lung-to-head ratio ($p< 0.001$), more often had an intrathoracic liver position ($p< 0.001$), required treatment for pulmonary hypertension ($p< 0.001$), had a patch repair ($p< 0.001$), developed a pneumothorax ($p< 0.001$) and required ECMO ($p< 0.001$). Independent risk factors for CLD were an intrathoracic liver position (OR 5.9, 95% CI 3.9-10.4) and a lower gestational age at birth (OR 0.86, 95% CI 0.73-0.97). Patients with severe CLD more often had a pneumothorax ($p< 0.001$), patch repair ($p=0.035$) and ECMO treatment ($p< 0.001$) than patients with mild to moderate CLD.

Conclusion: Pulmonary morbidity, which is a major problem in infants with CDH, can be identified antenatally.

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CLINICAL AND GROWTH OUTCOMES FROM THE DINO (DHA FOR THE IMPROVEMENT OF NEURODEVELOPMENTAL OUTCOME IN PRETERM INFANTS) TRIAL

C.T. Collins[1,2], B.J. Manly[3,4], R.A. Gibson[5], T.R. Sullivan[6], P. Ryan[6], A.J. McPhee[7], P.G. Davis[3,4], M. Makrides[1,2], the DINO Steering Committee

[1]Child Nutrition Research Centre, Women's and Children's Health Research Institute, North Adelaide, [2]Discipline of Paediatrics, The University of Adelaide, Adelaide, SA, [3]Neonatal Medicine, Royal Women's Hospital, [4]Paediatrics, The University of Melbourne, Melbourne, VIC, [5]School of Agriculture, Food and Wine, [6]Discipline of Public Health, The University of Adelaide, [7]Neonatal Medicine, Children, Youth and Women's Health Service, Adelaide, SA, Australia

Background and aims: Higher-dose docosahexaenoic acid, DHA, (~1% total fats) compared with standard-dose (~0.3%) in infants born < 33 weeks gestation improved the mental development of girls (JAMA, 2009). We report the effect on growth, allergic and respiratory symptoms.

Methods: Multicentre randomised controlled trial, stratified for sex, birth-weight (< 1250g, ≥1250g) and centre. Lactating women took tuna oil capsules (higher-dose DHA) or soy oil (standard); preterm infant formula with matching DHA composition was given if needed. Data collection included weight, length and head circumference weekly in-hospital and at term, 4, 12 and 18 months corrected age (CA); oxygen supplementation at 36 weeks post menstrual age (PMA) and parental reporting of medical diagnosis or drug treatment for atopic conditions.

Results: 657 infants were enrolled, 93.5% completed 18-month follow-up. Significant benefits were seen in infants receiving higher-DHA, including greater length (0.7 cm) at 18 months CA (95% CI 0.1, 1.4 cm, P=0.02); increases in length at 4 months CA