actually taking place in German hospitals. Regular training according to the ERC is still not obligatory. This becomes serious given data showing that pediatric emergency management has significant room for improvement. With the courses from PAEDSIM, the two core competencies are taught via a practice-based and team-oriented approach.

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IS THE EXPRESSION OF VEGF ALTERED AFTER TRACHEAL OCCLUSION IN EXPERIMENTAL MODEL OF CONGENITAL DIAPHRAGMATIC HERNIA?

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Background: Vascular endothelial growth factor (VEGF), an angiogenic factor secreted by pneumocytes-II, may play a role in the pathogenesis of congenital diaphragmatic hernia (CDH). Studies in rodents suggest that it may accelerate lung growth in hypoplastic lungs induced by prenatal nitrofen administration.

Aims: Analysis of pulmonary hypoplasia and quantification of VEGF in fetal lungs rats with CDH induced by administration of nitrofen to pregnant rats and changes after fetal tracheal occlusion (TO).

Methods: Timed-pregnant Sprague-Dawley rats treated with nitrofen on embryonic day 9 without further fetal intervention (group 1) and with fetal TO on day 20 (group 2). Control animals were treated with placebo (group 0). Cesarean section was performed on day 21. Fetuses were weighed, lungs dissected, weighed and frozen for subsequent quantification of VEGF by immunoassay.

Results: 50% fetuses in groups 1 and 2 developed CDH and none in the control group. Fetuses with CDH had significantly lower lung weight and reduced lung weight index/fetal weight than those who did not have CDH. VEGF quantification in those with CDH was lower (2.67 pg/mg) than in the rest (2.97 pg/gm). A trend to higher VEGF expression was observed after TO (data of 20 more fetuses are pending to confirm these results).

Conclusions: With the data available up to date, we found no significant differences in the quantification

of lung VEGF, although we observed a trend toward lower expression of this protein in CDH fetuses. TO could improve pulmonary VEGF expression.

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THE INTERNATIONAL NEONATAL IMMUNOTHERAPY STUDY (INIS). A RANDOMISED PLACEBO CONTROLLED TRIAL OF INTRAVENOUS IMMUNOGLOBULIN THERAPY FOR INFANTS WITH CLINICAL SEPSIS

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Introduction: Neonatal sepsis is a major cause of morbidity and mortality despite antibiotic treatment. Effective adjunctive treatments are needed. Newborn infants are relatively deficient in IgG. Meta-analyses of trials of intravenous IgG for suspected or proven neonatal sepsis suggest reduced all cause mortality but the trials are small and some are of poor quality.

Hypothesis: In newborn infants receiving antibiotics for clinical sepsis, the addition of polyclonal intravenous immunoglobulin IgG (IVIG) therapy reduces mortality and major morbidity compared with antibiotics alone.

Methods: Infants receiving antibiotics for proven or suspected serious infection were randomized to receive either two infusions of IVIG 500mg/kg (10ml/kg) or two infusions of matching placebo (0.2% albumin solution, 10ml/kg) 48 hours apart.

Outcome measures: The primary outcome was mortality or major disability at two years corrected for gestational age.

Preliminary results:

The 2 groups were well balanced in all prognostic variables.

IVIG (n=1759), Placebo (n= 1734)

All babies

Oral Abstracts

Primary outcome IVIG 691 (39.3%), Placebo 682 (39.3%), RR 1.0 (0.86,1.16)

Mortality at 2yrs IVIG 317 (18%), Placebo 304 (17.5%), RR 1.03 (0.89-1.19)

Survivors

Disability at 2yrs IVIG 374 (25.9%), Placebo 378 (26.4%), RR 0.98 (0.87-1.11)

Conclusions: Intravenous immunoglobulin therapy had no effect on the outcomes of suspected or proven neonatal sepsis. This trial is substantially larger (n=3,493) than all the other trials in the previous meta-analysis combined (n=378) and illustrates the importance of large pragmatic trials in establishing the role of emerging treatments before their widespread introduction on the basis of potentially unreliable evidence.

		Adult	Preterm			
			DOL 1	DOL 2	DOL 7	p value
CD11b	FI	4.6 +/- 1.2	2.8 +/- 0.9	2.6 +/- 1.4	2.3 +/- 0.9	<0.001
TLR4	Con	1123 +/- 172	674 +/- 253	1088 +/- 354	734 +/- 169	NS
	LPS	1301 +/- 674	970 +/- 187	1368 +/- 418	1072 +/- 406	<0.01
ROI	Con	19649 +/- 5200	7059 +/- 2434	9210 +/- 582	13764 +/- 1006	<0.001
	LPS	21173 +/- 5410	9107 +/- 551	10548 +/- 3047	15159 +/- 5790	<0.01

[Results]

Mean +/- Standard deviation; FI fold increase; DOL= day of life; p value comparing adult and preterms

Conclusions: Preterm infants have altered immune function in the first week of life with a reduction in endotoxin response compared with adults. This may increase their susceptibility to infection but could also minimise damaging inflammatory responses.

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EARLY PRETERM NEONATAL NEUTROPHIL FUNCTION IN RESPONSE TO ENDOTOXIN.

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Objective: To assess neutrophil function in premature infants in the first week of life.

Method: We prospectively collected serial blood samples from premature infants (n=11; < 32 weeks gestation) on day 1, 2 and 7 of life and from adult controls (n=11). Whole blood CD11b and Toll Like Receptor 4 (TLR4) expression as well as reactive oxygen intermediate (ROI) production were evaluated using appropriate antibodies and fluorescent substrates via flow cytometry.

Results: Preterm baseline CD11b expression was comparable to adults. Baseline neonatal TLR4 expression was decreased compared with adults. Although CD11b and TLR4 expression increased following LPS stimulation, they failed to reach adult levels. Baseline neonatal ROI production was also reduced but increased to adult values by DOL 7.

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B-TYPE NATRIURETIC PEPTIDE AS EARLY BIOMARKER FOR EVALUATION OF PERSISTENT PULMONARY HYPERTENSION TREATMENT IN NEONATES

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Background: During persistent pulmonary hypertension (PPHN) the pulmonary vascular resistance remains elevated in the neonatal period. Treatment is directed towards decreasing the pulmonary vascular resistance (Nitric Oxide (NO)) and preserving adequate blood pressure. Besides regular echocardiographic evaluation, no biomarker is available to evaluate the effectiveness of the treatment.

We investigated whether serum B-type Natriuretic Peptide (BNP) is a useful biomarker to evaluate the course of PPHN and effectiveness of treatment.