

in CS group (-10.2%) than that in VD group (-7.8%). Exclusive breastfeeding rate in hospital was lower in CS group (53.6%) compared with VD group (69.9%). However, breastfeeding rate at the hospital discharge was not significantly different between VD group (85.2%) and CS group (83.6%), and neither was that at 3-month-old checkup between VD group (70.8%) and CS group (66.7%),

Conclusion: Nearly 70% of breastfeeding rate was sustained by continuous breastfeeding support for healthy term infants until 3 months old in any mode of delivery.

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RISK OF BRONCHOPULMONARY DYSPLASIA (BPD) IS INCREASED AFTER SURGICAL LIGATION OF DUCTUS ARTERIOSUS IN PRETERM INFANTS

J.H. Jeon¹, R. Namgung², M.S. Park², K.I. Park², C. Lee²

¹Neonatology, CHA Kangnam Medical Center, CHA University, ²Neonatology, Severance Children's Hospital, Yonsei University College of Medicine, Seoul, Republic of Korea

Background: Patent ductus arteriosus (PDA) with significant left to right shunt in preterm infants increases morbidity and mortality. Treatment modality can affect neonatal morbidities.

Objective: To determine whether surgical ligation of PDA increases neonatal morbidities and mortality compared with other treatment modalities in preterm infants with symptomatic PDA.

Design/methods: A total of 128 infants (25⁺36⁺6wks, 620 3710g) diagnosed as symptomatic PDA were grouped by treatment modality: Conservative group(n=36), INDO group(n=73) and OP group(n=19). We analyzed relative risks of NEC(> S2), BPD(> moderate), intraventricular hemorrhage (IVH;> G3), ROP(> S3 or operation) and BPD/death by treatment modality by multivariate logistic regression after adjustment for gestation and HMD.

Results: Gestation and birth weight were lower in OP group(29 2.5wk 1062 275g) compared with Conservative group(32 3.6wk, 1842 728g) and INDO group(30 3.2wk, 1322 462g); HMD and ventilator duration were significantly increased in OP group, but mortality were similar between groups. In multivariate analysis, OP group shows increased

risks of BPD, OR 62.7 (95% CI, 5.97,657.2, p=0.001) and BPD or Death, OR 21(95% CI, 3.9,114.8, p=0.001); In INDO group, no associations with NEC, ROP, IVH, BPD and BPD/Death..

Conclusions: Since the risk of BPD was increased after surgical ligation of PDA but not with INDO therapy, surgical ligation may not be the preferred initial treatment for symptomatic PDA in preterm infants. In the case of OP group, it is possible that factors leading to the choice of surgery or prolonged ductal patency may influence outcome.

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LOW COMPLIANCE WITH GUIDELINES FOR RESPIRATORY SUPPORT OF PRETERM INFANTS AT BIRTH

M. Mulders, K. Schilleman, E. Lopriore, C.J. Morley, F.J. Walther, **A.B. te Pas**

Neonatology, Leiden University Medical Center, Leiden, The Netherlands

Objective: To investigate the compliance of clinicians with guidelines for respiratory support of preterm infants and to identify bottlenecks.

Methods: Respiratory interventions at birth in preterm infants born at the Leiden University Medical Center were observed by an independent researcher. Video recordings and recordings of airway pressure, gas flow, heart rate and oxygen saturation were reviewed with the resuscitator and compared with Dutch neonatal resuscitation guidelines.

Results: In 34 infants (mean (SD) gestational age 30.6 (3.2) weeks, birth weight 1292 (570) grams) respiratory interventions were: 8/34 (23%) none given, 3/34 (9%) continuous positive airway pressure (CPAP) and 23/34 (68%) mask ventilation followed by CPAP (6 were intubated later on). Review of the recordings showed that respiratory support was not in accordance with guidelines in 25/34 (74%) infants. In 14/34 (42%) infants choice of support was not as recommended: 6 infants received no respiratory support despite insufficient breathing and bradycardia, 2 received CPAP despite prolonged apnea, 4 received mask ventilation although breathing and heart rate were adequate and 2 infants were intubated despite sufficient breathing and adequate saturation and heart rate. In 5/23 (22%) mask ventilated infants no initial sustained inflations were given. 18/23 (78%) infants received initial sustained inflations, but 9 different

combinations were observed (range (1-9) x (2-10) seconds). In 9/34 (26%) infants set pressures were not as recommended.

Conclusion: The compliance with guidelines for respiratory support in preterm infants at birth is low and clinicians have difficulty in judging the presence and/or efficacy of breathing.

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TACROLIMUS AND LEU-ILE INHIBIT HYPOXIC-ISCHEMIC ENCEPHALOPATHY IN NEWBORN RATS

D. Sunohara¹, A. Kondo¹, N. Mizukaki¹, Y. Suganami¹, T. Takami¹, A. Hoshika¹, K. Fujita², M. Kuroda²

¹*Pediatrics*, ²*Molecular Pathology, Tokyo Medical University, Tokyo, Japan*

We used a neonatal rat hypoxia ischemia (HI)/reperfusion brain damage model and investigated the neuroprotective effects of the immunosuppressant tacrolimus (FK506) and the hydrophobic peptide Leu-Ile, which has an active site similar to that of FK506 but is not an immunosuppressant.

Method: HI was induced in 7- or 8-day-old Wistar rat pups by transient right carotid artery occlusion, followed by exposure to 8% O₂. After HI insult, the rats were intraperitoneally administered FK506, Leu-Ile, a combination of the 2 drugs, or vehicle. Twenty-four hours or 7 d after HI, we analyzed the decreasing ratio of cerebral hemispheric weights and then histologically examined the brain tissue by HE, Iba-1, and caspase-3 staining. Body weight gain was also monitored.

Result: The decreasing ratio of cerebral hemispheric weights in the FK506, Leu-Ile, and combination groups was lower than that in the vehicle group, but this ratio was significantly different only between the vehicle and FK506 groups. Pathological analysis showed that neurocytic injury had a strong suppressive effect in the FK506 and combination groups and a mild effect in the Leu-Ile group. During the 7-d experiment, the FK506 group showed lower body weight gain than the other groups.

Conclusion: Combination treatment with Leu-Ile and FK506 had a stronger neuroprotective effect and lesser side effects; thus, we concluded that combination therapy might have potential for clinical application in neonatal HIE.

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KNOWLEDGE GAINED BY RESIDENTS AFTER NEONATAL RESUSCITATION PROGRAM COURSE: COMPARISON AMONG PEDIATRICS, ANESTHESIA AND GYNECOLOGY

N. Doglioni, M. Parotto, C. Boscardin, S. Toniazzo, D. Trevisanuto

Pediatric Department, University of Padua, Padua, Italy

Objective: Neonatal resuscitation program (NRP) course is effective in improving knowledge in participants; however, its efficacy in relation to the specialty training of the attendants is lacking. We assessed the effectiveness of the NRP course in the knowledge gained by residents in pediatrics, anesthesiology and gynecology.

Methods: A 71-item questionnaire derived from the standard test contained in the American Heart Association and American Academy of Pediatrics Neonatal Resuscitation Manual was administered to residents in pediatrics, anesthesiology and gynecology before and after the course.

Results: A total of 124 residents attended 4 courses from 2006 to 2009: 65 of them were training in pediatrics, 32 in anesthesia, 27 in gynecology. The percentages of correct answers significantly improved from before (61.07 ± 0.92%) to after the course (86.24 ± 0.52%; p < 0.001) in all the three groups. However, in the pretest as well as in the posttest, pediatrics and anesthesiology residents obtained higher scores than gynecology residents (p < 0.001).

Conclusions: Residents significantly improved their knowledge attainment following participation in the NRP course; however, their performance changed with the different background training. These aspects need to be considered for improving effective strategies in neonatal resuscitation training.