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

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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

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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 ($61.07 \pm 0.92\%$) to after the course ($86.24 \pm 0.52\%$; $p < 0.001$) 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.