that hypovolaemia reduced CA-capacity by 32% at ABP below 40 mmHg but not above (P=0.03).

**Conclusions:** In newborn piglets CA-capacity appears to be reduced by hypovolaemia in itself. In this experiment, however, the level of ABP was the dominating determinant of CA-capacity.

**51**

## EFFECT OF VOLUME EXPANSION ON CEREBRAL BLOOD FLOW IN HYPOTENSIVE PRETERMS

E.M.W. Kooi, L. Leeuwen, **E.A. Verhagen**, A.F. Bos

*Paediatrics/Neonatology, Beatrix Children's Hospital, University Medical Center Groningen, Groningen, The Netherlands*

**Background and aims:** To ensure adequate perfusion of the brain, cerebral autoregulation limits cerebral blood flow (CBF) to a certain range. Preterm infants might lack autoregulation, and when hypotensive, be at risk for cerebral damage.

Frequently used treatment for hypotension is volume expansion. We aimed to determine the effect of volume expansion (crystalloid) in hypotensive preterms on fractional cerebral tissue oxygen extraction (FTOE), a measure for CBF.

**Methods:** Preterm infants with a mean arterial blood pressure (MABP) below their GA, who received volume expansion (15 ml/kg) within the first week of life, were included.

Near-infrared spectroscopy was used to measure regional cerebral oxygen saturation ($r_cSO_2$). Transcutaneous arterial oxygen saturation ($tcSaO_2$) was measured simultaneously. FTOE was calculated: ($tcSaO_2$-$r_cSO_2$)/$tcSaO_2$. We analyzed 2 episodes of 1h immediately before, and 2 hours after treatment, using Mann-Whitney-U-test.

**Results:** Twelve measurements in 10 preterms (7 female, median GA 27.9 weeks (range 25.6-31.3), BW 1064 grams (676-1780), 1.7 days old (0.5-6.9), CRIB-score 4 (1-9)) were analyzed. MABP increased in 10 cases (median 29.5 to 32.0 mmHg), though not significantly (p=.21). FTOE did not change accordingly (median 0.26 to 0.24, p=1.0).

**Conclusions:** Volume expansion tends to increase MABP but has no effect on FTOE. However, FTOE before volume expansion was always within the normal range. The question arises whether volume expansion is warranted in preterm infants in case of marginally low blood pressure. Due to the lack of effect on MABP and limited numbers investigated, no conclusion regarding cerebral autoregulation can be drawn.

**52**

## DOES MULTIDISCIPLINARY GROUP THERAPY IMPROVE OUTCOME IN OVERWEIGHT/ OBESE CHILDREN AND ADOLESCENTS?

**C. de Beaufort**[1], H. Samouda[2], U. Schierloh[1], J. Jacobs[2], J.F. Vervier[3], R. Chafai[1], G. Gilson[4], V. Boquet[2], M.L. Lair[2], OSPEL Study Group

*[1]DECCP, Clinique Pédiatrique/CHL, [2]Department of Public Health, Centre de Recherche Publique-Santé, [3]Departement de Pédopsychiatrie, Clinique Pédiatrique/CHL, [4]Department of clinical Biology, Centre Hospitalier de Luxembourg, Luxembourg, Luxembourg*

**Objectives:** Evaluate the impact of ambulatory group therapy (GT) versus individual therapy (IT) on a large group of overweight/obese children and adolescents.

**Methodology:** Self-referred overweight and obese children/adolescents , were invited to participate and randomised to GT or IT for 4 months. GT included physical activity, dietary education and psychological sessions (2x3 hrs/week including 3hrs/ 2 weeks with parents). IT was made to measure and consisted of counselling of the child and its family on healthy lifestyle. Dietary advice and psychological support were available, when deemed necessary. Changes in BMI Z-score, WC-Z-score, glucose and fat metabolism, eating habits, lifestyle, wellbeing and self esteem were investigated. The study was approved by the National Medical Ethical Committee (CNER).

**Results:** 192 children and adolescents participated with informed consent (age range 7-17 years; F: 53.6%). After 4 months, a BMI Z-score reduction was observed with a significantly better outcome in the GT. Positive changes in weight status were observed in 19% of children in the GT compared to 5.9 % of those following IT. Biological parameters show a small change over time but not significantly different between the two groups. Positive changes in eating habits as well as lifestyle were observed more frequently in the GT children, although not all reached statistical significance. Self perceived wellbeing as well as happiness with themselves improved after the GT.