Aims:

- 1) to quantify the tissue UCB content (TUCB) spontaneously present in five brain regions of Gunn rats; and
- 2) to unravel the dynamics of TUCB entry and clearance after sulphadimethoxine treatment .

Methods: Cortex (Cx), superior collicula (SC), inferior collicula (IC), cerebellum (CLL) and the rest of the brain (RB) were collected 1, 6, 24, 48 and 72 hrs after injection of sulfadimethoxine (200 mg/Kg; IP) in 17 days-old jj animals and in not treated JJ, Jj and jj rats. TUCB was analyzed by the HPLC based method (Zelenska_2008).

Results: In untreated jj animals TUCB brain amounts was about 80 times higher than in Jj and JJ, and no regional differences were detected. After sulphadimethoxine administration TUCB picked differently in the regions analyzed: 1 hr in Cx and SC, 6 hrs in RB, 24 hrs in IC, 6 - 24 hrs in CLL. 72 hrs after injection, TUCB content was lower than in not treated littermates.

Conclusions: The differential entry and clearance across brain areas show regional difference in cellular mechanisms modulating tissue UCB concentration. The different kinetics might be involved in the tissue resistance/sensitivity to bilirubin toxicity of nervous system.

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AMPLITUDE INTEGRATED EEG AS A DIAGNOSTIC TOOL IN NEONATAL STROKE

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Background: The two-channel amplitude integrated EEG (aEEG) allows for continuous monitoring of cortical activity of each hemisphere separately.

Aim: We present three newborns with unilateral cerebral infarction, in whom the aEEG was an important diagnostic tool.

Methods: Infants were monitored routinely by two-channel aEEG, electrodes were positioned in C3-P3, C4-P4.

Case reports:

Patient 1: Term newborn boy, birth weight 3620 g, Apgar scores 9/10/10. Admission on day 1 for apnea. The aEEG showed an abnormal background pattern with ictal activity on the left. Cerebral ultrasound exhibited a slight difference in echogenicity between left and right parieto-occipital parenchyma, MRI showed left arteria cerebri media infarction.

Patient 2: Term newborn girl, birth weight 2750g, Apgar scores 8/10/10, admitted day 3 for jerks of the left arm. The aEEG showed an abnormal background pattern bilaterally and ictal activity on the right. Haemorrhagic infarction in the right fronto-temporal region was suspected by ultrasound examination and subsequently confirmed by MRI.

Patient 3: Preterm boy (32 weeks), birth weight 2350g, Apgar scores 7/7/10, uncomplicated postnatal period, normal ultrasound findings in the first week of life. The aEEG in the second week showed left-sided ictal activity. Left arteria cerebri media infarction was diagnosed by ultrasound and MRI.

Summary:

In all three cases, unilateral ictal activity was displayed in the two-channel aEEG (difficult to recognize in one-channel aEEG). Clinical signs of cerebral infarction may be unspecific and ultrasound changes might be detected only when high suspicion is raised by the aEEG findings.

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FEATURES OF CONDUCT AND TREATMENT OF RESISTANT EPILEPTIC ATTACKS IN CHILDREN OF EARLY AGE WITH A TUBEROUS SCLEROSIS

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Aim: optimization of early diagnostics and treatment of resistant epileptic attacks in children with a tuberous sclerosis.

Methods: during the last 7 years there were studied 9 children with a tuberous sclerosis in an age category to 3 years. On the basis of magnetic resonance tomography, for all nine children there were determined hamartomas from 3 to