emergencies. Abnormal NE grade is best predicted by day 2 serum Epo and IL-8 while CSF levels were not predictive of outcome. Serum biomarkers may have a role in long term outcome prediction following NE.

**PS-158**

**EMERGENCY TRIAGE ASSESSMENT AND TREATMENT (ETAT) TRAINING IN A SEMIRURAL HOSPITAL IN SIERRA LEONE — RETENTION OF KNOWLEDGE AND FEED BACK**

1A Lewis, 1T Sendell, 1T Hildebrandt, 1M Bryant, 1Paediatrics, Princess of Wales Hospital, Bridgend, UK; 2General Practice, ABMU Health Board, Swansea, UK

Background and aims ETAT is a well established training course initiated through WHO in 2005. It is aimed at resource poor countries and teaches triage of children leading to effective emergency treatment. The course is run over 3 days consisting of tutorials and practical skill stations. We delivered ETAT for the first time in a semirural hospital situated in Lunsar, Sierra Leone.

Methods 20 candidates participated in the course. Candidates were asked to complete a test consisting of 25 points and to give structured feedback after completion of all modules.

Results 20 initial post course assessments were performed with an average score of 78.2%, overall feedback was very good with all categories rated as excellent or good. Overriding themes were: "The training should be repeated on a regular basis"

"Tutorials and practical skill stations will help me to implement this knowledge into practice"

Conclusions ETAT training is well received with all feedback categories rated as either excellent or good. The initial testing demonstrated good knowledge of topics taught with an overall score of 78.2%. Post course retention of knowledge however is likely to be poor in line with previously published data. To achieve long term retention of knowledge ETAT training should be delivered repeatedly, ideally led by the local team.

**PS-159**

**BETA-AMYLOID AND S100B COULD BE VALUABLE BIOMARKERS AFTER NEONATAL HYPOXIA-REOXYGENATION. A STUDY IN NEWBORN PIGS**

1T Benterud, 1L Pankratov, 1R Søberg, 1OD Saugstad, 1A Skinningsrud, 1N Bolstad.

Department of Pediatric Research, Oslo University Hospital, Oslo, Norway; Department of Medical Biochemistry, Akershus University Hospital, Oslo, Norway; Department of Medical Biochemistry, Oslo University Hospital, Oslo, Norway

Background and aims The use of biomarkers is an important strategy for risk stratification for neonates admitted to the NICU after perinatal asphyxia. Total Tau (t-Tau), phosphorylated Tau (p-Tau) and Beta-Amyloid (1–42) (b-A) in CSF, are useful biomarkers in various neurological disorders, such as Alzheimer’s. Few, if any, experiments have investigated the possible association between oxidative stress in the neonates and the levels of these proteins.

**Abstract PS-159 Table 1**

<table>
<thead>
<tr>
<th></th>
<th>S100B ng/ml</th>
<th>P-A pg/ml</th>
<th>p-Tau pg/ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe Hypox</td>
<td>40 (34)</td>
<td>&lt;0.01</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Severe Hypox</td>
<td>1002 (401)</td>
<td>0.01</td>
<td>0.05</td>
</tr>
<tr>
<td>Severe Hypox</td>
<td>85 (49)</td>
<td>n.s.</td>
<td>n.s.</td>
</tr>
<tr>
<td>Mild Hypox</td>
<td>39 (39)</td>
<td>&lt;0.05</td>
<td>15 (9)</td>
</tr>
<tr>
<td>Mild Hypox</td>
<td>1076 (109)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild Hypox</td>
<td>95 (64)</td>
<td>n.s.</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>1290 (143)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>168 (115)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Objective To study any correlations between the levels of t-Tau, p-Tau, b-A, S100B and NSE and oxidative stress in the newborn pig.

Methods Fifty-four newborn piglets, age 12–36 h, were included. One control group (n = 6) and 2 experimental groups (n = 24), exposed to global hypoxia (8% O2) until BE reached -15 mmol/l (moderate hypoxia) or -20 mmol/l (severe hypoxia) or BP fell below 20 mmHg. The pigs were observed for 9.5 h. CSF was collected 9.5 h after the intervention.

Results Discussion To our knowledge this is the first study investigating the levels of Tau, p-Tau and b-Amyloid in a neonatal animal model after hypoxia-reoxygenation. The reduced level of CSF b-Amyloid may reflect the death of neurons after neonatal hypoxia. A strategy of measuring several biomarkers should be applied when assessing the prognosis after perinatal asphyxia.

Conclusion These findings show that b-amyloid and S100B are significantly changed in neonatal pigs subjected to hypoxia compared to controls, thus they may be valuable biomarkers after perinatal asphyxia.

**PS-160**

**VOLUME OF CEREBELLUM AND THALAMUS IS ASSOCIATED WITH WORKING MEMORY PERFORMANCE IN CHILDREN AND ADOLESCENTS BORN VERY PRETERM**

1F Wehrli, 2A Buchmann, 1A Hüsler, 18 Latal, 1R Huber, 1R O’Gorman, 1L Kaufmann, 1H Speikl, 1C Verrey, 1C Hagnegg. 1Division of Neonatology, University Hospital of Zurich, Zurich, Switzerland; 2Department of Neurology, University Hospital of Zurich, Zurich, Switzerland; 3Department of Psychiatry, University of Zurich, Zurich, Switzerland; 4Child Development Center, University Children’s Hospital, Zurich, Switzerland; 5Center for MR Research, University Children’s Hospital, Zurich, Switzerland; 6Department of Psychiatry and Psychotherapy A, General Hospital, Hall in Tyrol, Austria

Background Children and adolescents born very preterm (VPT) are at increased risk for altered brain development [1] and impaired cognitive performance [2]. Decreased regional brain volume in VPT infants has been associated with later working memory deficits [3]. This study aims to identify associations between regional brain volume and working memory performance in VPT children.

Design/methods Thirty-three VPT children between 10 and 16 and 34 term-born peers were examined. Three-dimensional T1- and T2-weighted MR images were acquired on a 3T GE scanner. Regional brain volumes were calculated using FreeSurfer 5.3.0. Working memory was assessed using the spatial working memory (SWM) task of the Cantab test battery.