infants are managed on single medication for an average duration of 8 months.

Hypoxic-Ischemic Encephalopathy Biomarkers

**A RATING SCALE (RS) FOR EARLY AND ACCURATE EVALUATION OF THE SEVERITY OF HYPOXIC-ISCHAEMIC ENCEPHALOPATHY (HIE)**

**Objective** To investigate the association between novel urinary biomarkers and outcome in a group of term infants with NE compared to controls.

**Methods** Levels of urinary biomarkers [Albumin, B2M, Cystatin-C, EGF, NGAL, Osteopontin, Uromodulin] were serially measured over day 1–11 in a group of term newborns with NE and controls. These values were compared to grade of encephalopathy defined by Sarnat score.

**Results** Ten control and 82 cases had urine samples collected (Grade 0 NE = 7, Grade I NE = 22, Grade II NE = 42, Grade III NE = 11). Thirty-nine infants underwent TH, 4 infants died. Control infants had significantly lower B2M on day 1, NGAL on day 1–2 and significantly higher urinary EGF on day 2–3 and Uromodulin on day 3, compared with cases (p-values)

**Conclusion** Infants with NE have elevated urinary biomarkers compared to controls. Abnormal grade of encephalopathy is best predicted by day 2 urinary Cystatin-C and day 3 NGAL. Urinary biomarkers may have a role in long term outcome prediction following NE.

**URINARY BIOMARKERS MAY HELP PREDICT OUTCOME IN NEONATAL ENCEPHALOPATHY**

**Background** Following a perinatal hypoxic-ischaemic insult, term infants are at risk of multi-organ injury including AKI. Infants with NE experience up-regulation of urinary cytokines which may reflect severity of brain injury.

**Objective** To investigate the association between novel urinary biomarkers and outcome in a group of term infants with NE compared to controls.

**Methods** Levels of urinary biomarkers [Albumin, B2M, Cystatin-C, EGF, NGAL, Osteopontin, Uromodulin] were serially measured over day 1–11 in a group of term newborns with NE and controls. These values were compared to grade of encephalopathy defined by Sarnat score.

**Results** Ten control and 82 cases had urine samples collected (Grade 0 NE = 7, Grade I NE = 22, Grade II NE = 42, Grade III NE = 11). Thirty-nine infants underwent TH, 4 infants died. Control infants had significantly lower B2M on day 1, NGAL on day 1–2 and significantly higher urinary EGF on day 2–3 and Uromodulin on day 3, compared with cases (p-values)

**Conclusion** Infants with NE have elevated urinary biomarkers compared to controls. Abnormal grade of encephalopathy is best predicted by day 2 urinary Cystatin-C and day 3 NGAL. Urinary biomarkers may have a role in long term outcome prediction following NE.