Results We found significantly higher serum ADMA levels but not serum hs-CRP levels in NBF when compared to BF group ($p < 0.05$). According to BMI data starting from the age of 12 months more overweight/ obese children were found in NBF children when compared to BF. Serum ADMA was inversely associated with HDL-cholesterol levels and breastfeeding duration in studied children ($p < 0.05$). Positive correlation was found between ADMA and body fat mass ($p < 0.05$).

Conclusion In NBF children increased circulating ADMA is observed, however further studies are needed to assess whether breastfeeding duration affects body fat and other measures of body composition at older ages.

PO-0713 SYSTEMIC EFFECTS OF ANTICHOLINERGIC – SYMPATHOMIMETIC EYE DROPS DURING SCREENING FOR RETINOPATHY OF PREMATURITY

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Background and aims Anti cholinergic and sympathomimetic eye drops are widely used to achieve mydriasis. Normally systemic effects of these eye drops are ignorable but adverse events in preterm infants are reported. In this study during routine screening for retinopathy of prematurity (ROP), preterm infants were searched for the systemic effects of eye drops.

Methods The standard protocol was to instil 3 drops per eye which is a mixture of short acting tropicamide 0.5% with long acting cyclopentolate 1% and phenylephrine 2.5% ophtalmic solution in equal volumes. Each drop instilled at a 15 min interval before examination. Body temperature, heart rate, respiration, blood pressure, spO2, presence of flashing were recorded three times; before the instillation of eye drops, just before the examination and after an hour. Parents were informed about the adverse side effects and presence of complaints were asked after 24 h with the telephone interview. Data were analysed by 2 two-way ANOVA and independent samples t-test.

Results Forty eight (27 male+21 female) infants with birth weight 1498 ± 432(720–2500)g and gestational age 31,7 ± 3.3 (25–37)weeks were examined at postmentruel age of 41.95 ± 4.74(34–58) weeks. Body temperature rised subsequently with each eye drop ($p = 0.023$). The change in other physiologic parameters were not statistically significant. Apnea over10 seconds were developed in 9 infants. Within 24 h gastrointestinal symptoms developed in 8, discomfort/sleeplessness in 22, hyperemia/discharge from the eye in 20 infants.

Conclusion It was concluded that doctors must be aware of the the systemic effects of mydriatic eye drops used in screening examination for ROP and parents have to be informed about these effects.

PO-0714 RESPIROMETRY OF PLATELETS SUGGESTS MITOCHONDRIAL DISORDER IN A NEWBORN INFANT WITH LETHAL HEPATOPATHY AND ENCEPHALOPATHY

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Background and aims Rapid diagnosis of mitochondrial disorder is difficult in newborn infants with metabolic crisis. We studied whether respiratory chain disorder can be assessed from circulating platelets.

Methods A full-term girl of consanguineous parents was born after uncomplicated pregnancy (2690 g, Apgar 10/10/10). On day one she was transferred to NICU with metabolic acidosis (pH 7.11, pCO_2 2.8, BE -24, lactate 19 mmol/l). CSF/plasma lactate ratio (5.3/6.9) was increased. Cerebral MRI revealed diffuse changes in pyramidal tract and internal capsule. On day 4 she developed hepatic failure, conjugated hyperbilirubinemia and slight hyperammonemia. Urine metabolic analysis revealed increased 3-methylglutaconic acid (160 mmol/mol creatinine), and 4-hydroxyphenyllacetate suggestive of mitochondrial disorder. Respirometry (Oroboros Oxygraph, SUIT-protocol) was performed on blood cells. Isolated mitochondria from fibroblasts and liver were assessed with Blue Native-PAGE (BNGE) for respiratory chain complex assembly. Intensive care was withdrawn because of deterioration, and postmortem biopsies performed.

Results Respirometry on platelets showed a borderline oxygen consumption. Histology of muscle was normal, liver was cholestatic with iron accumulation. In fibroblasts, respiratory chain complex assembly was normal, but in liver levels of Complexes I, III and IV were decreased. Whole genome sequencing identified the candidate genes *Sycp2*, *Clybl* and *Foxred1*. The deficient complexes all possess mtDNA encoded subunits thus nuclear encoded translator mutation or other mtDNA related mutation might be causative.

Conclusions Respirometry from blood cells might suggest mitochondrial dysfunction that can be verified by structural analyses of respiratory chain complexes from the target organ. Causative mutation might be achieved with next generation sequencing.

PO-0715 WITHDRAWN

PO-0716 CONTINUOUS VENOVENOUS HEMODIAFILTRATION EXPERIENCE OF FOUR NEWBORNS

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Aim Conventional methods are the first treatment modalities of renal failure or metabolic diseases in newborns. If these modalities fail to treat, we start to use peritoneal dialysis (PD). Continuous venovenous hemodiafiltration (vvHDF) is used when PD can not be performed. Our continuous vvHDF experience of 4 patients in neonatal intensive care unit, is presented.

Case1: A male term newborn infant, having mapple syrup urine disease with a high serum leucine value after PD could not be performed, vvHDF was successfully provided. He was discharged from our hospital on 34th postnatal day.

Case2: A preterm newborn, having polycystic renal disease and could not use under PD and vvHDF was started on 13th postnatal day. He died due to ventilator associated pneumonia on 135th postnatal day.

Case3: A term newborn, having "polycystic renal disease" and could not perform PD, was referred to our unit for continuous vvHDF administration on 3rd postnatal day. vvHDF application was continued until his 61st postnatal day.

Case4: A term newborn was appealed to our emergency service, with dyspnea and supraventricular tachycardia was diagnosed on 13th postnatal day. After intervention, multiorgan failure developed in our patient. At his postnatal day 27, vvHDF was performed. The patient died because of ventilator associated pneumonia.

Conclusion Continuous vvHDF application should be considered in the neonatal period, in cases where it is impossible to apply PD. Due to the technical difficulties in the neonatal period, such application is not common but it is also life saving.

PO-0717 NEONATES WITH PARENTS WHO ARE CHILDREN: WHO CONSENTS?

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Introduction As neonates do not have capacity those with parental responsibility (PR) usually consent for medical interventions.[1] A recently delivered mother may be the only person with automatic PR, but might be unavailable in person, especially if the infant has been transferred to another hospital.

Whilst consent can be obtained through telephone[2] assessing capacity in this situation can be challenging, especially if the parent is under sixteen, and therefore lawfully a child themselves.

Case presentation A baby with bladder extrophy was delivered of a 15-year old undergoing treatment for aplastic anaemia. After transfer to the national urology unit the surgical team obtained consent by phone. On review there was rather limited exploration of mother's ability to understand suggested management and therefore consent.

Discussion Children are afforded the *right* to consent to medical treatment from 16-years.[3] Though in *Gillick v West Norfolk and Wisbech AHA.*[4] Fraser LJ outlined circumstances where even younger children might consent to oral contraception and Scarman LJ extended it to a general replacement of parental consent as children mature.

It is now accepted that children of any age can consent if they can demonstrate capacity. But, no child has yet been permitted by the Courts to decline medical treatment held to be in their best interests.[5,6]

We can find no recorded cases – e.g. Westlaw-UK – before UK Courts regarding child-parents consenting or refusing treatment for their own child.

Professionals consenting for neonatal interventions need to be aware of the law surrounding child-parents.[7]

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PO-0718 TEMPERATURE MEASUREMENT DURING BODY-COOLING THERAPY IN NEWBORN BABIES WITH HYPOXIC-ISCHAEMIC ENCEPHALOPATHY

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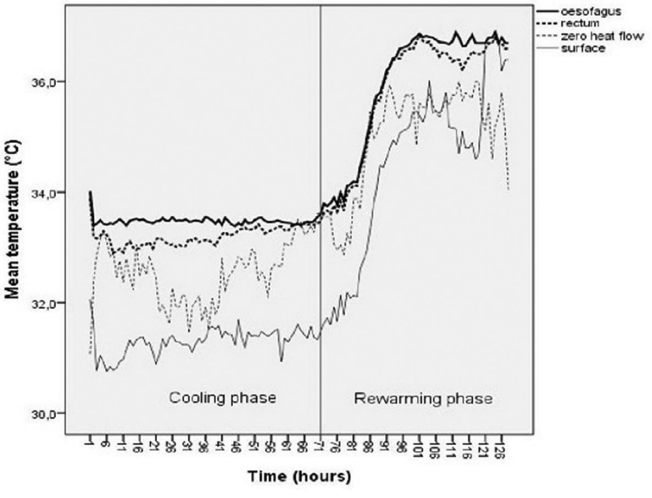
Background and aims Temperature control during therapeutic hypothermia in newborns with hypoxic ischaemic encephalopathy needs to be monitored with great care since this treatment can cause serious side effects. The temperature measured in the pulmonary artery is considered the 'gold standard'; however, this is not suited to patients in the NICU. A reliable and less invasive method is the temperature measured in the oesophagus.

Aim We hypothesised temperature measurements during hypothermia using an oesophageal probe reflects higher temperatures than measurements using a rectal probe.

Methods 20 newborns treated with hypothermia were provided with a continuous rectal temperature probe as well as an oesophageal temperature probe. Both measurements were registered over a period of 72 h of hypothermic therapy.

Results Linear multilevel regression analysis revealed significant associations between rectal and oesophageal temperatures. We recorded a mean difference per degree between rectal and oesophageal temperatures of 0.12°C. This difference is 0.17°C higher during the cooling phase when compared to the rewarming phase.

Conclusion The differences between oesophageal and rectal temperatures do not result in any clinical effects. Temperature control during hypothermia can be done with either an oesophageal probe or a rectal probe; however, in order to reduce the risk of inadequate cooling due to a defective or dislocated probe, it is safer to use both probes simultaneously.



Abstract PO-0718 Figure 1 Oesophageal temperature, rectal temperature, surface temperature and zero heat flow temperature during 72 h of hypothermic treatment followed by the rewarming period