Abstract PO-0494 Table 1

Patient No Duration (h)	Cerebral-rSO2	c-FTOE	Abdominal-rSO2	a-FTOE	Renal-rSO2	r-FTOE
1 (58)	73 ± 6,9	0,2 ± 0,07	77 ± 6,4	0,2 ± 0,03	71 ± 6,8	0,2 ± 0,05
2 (68)	78 ± 3	0,2 ± 0,01	77 ± 5,5	0,2 ± 0,03	78 ± 5,2	0,2 ± 0,01
3 before surgery on PGE1 (112)	57 ± 6,8	0,3 ± 0,07	63 ± 8,5	0,2 ± 0,08	72 ± 7,2	0,1 ± 0,08
4 after surgery (25)	64 ± 3,6	0,1 ± 0,05	68 ± 0,6	0,02 ± 0,001	61 ± 3,2	0,1 ± 0,05

regarding not only cerebral but abdominal or renal tissue oxygenation (rSO2) as well. Fractional tissue oxygen extraction (FTOE) is calculated from NIRS measurements and arterial haemoglobin oxygen saturation (SpO2) measured by pulse oxymeter. Multichannel NIRS devices maybe very helpful in newborns with multisystem problems enabling realtime simultaneous measurements of rSO2 from different parts of the body. Pulse oxymeter integrated into a multichannel NIRS device provides simultaneous SpO2 monitoring making FTOE calculations more accurate and easier.

Methods Three term newborns; 2 undergoing therapeutic hypothermia for hypoxic ischaemic encephalopathy grade II, 1 with critical pulmonary stenosis before and after cardiac surgery were monitored by multichannel NIRS (Sensmart X-100, NONIN, USA) device including cerebral, abdominal, renal rSO2 and SpO2 probes. FTOE was calculated using the equation; (SpO2-rSO2)/SpO2.

Results Duration of monitorization and rSO2 and FTOE values of different body sites are presented in table with mean±SD.

Discussion Longterm simultaneous monitoring of tissue oxygenation in brain, abdomen and kidneys is useful while following newborns with multisystem problems requiring hypothermia or circulatory medications to titrate the treatment accordingly. NIRS device with integrated pulse oxymeter maybe helpful for realtime calculation of FTOE to assess hemodynamics.

PO-0495 INTRAVENOUS IBUPROFEN (IBU) VS CONTINUOUS INDOMETHACIN-INFUSION (IND-INF) FOR SYMPTOMATIC PATENT DUCTUS ARTERIOSUS (PDA) TREATMENT IN NEWBORNS

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10.1136/archdischild-2014-307384.1141

Abstract PO-0495 Table 1

Outcome	IND-INF	IBU	p-value
cPDA(n/N)	1/8	2/8	1
rPDA(n/N)	6/8	3/8	0.1
wPDA(mm)	1.5(1.3–1.7)	1.5(1.1–1.5)	1
rePDA(n/N)	0/8	2/8	0.15
FiO_2(%)	29(25–40)	29(25–36)	0.96
BPD(n/N)	7/8	8/8	1
SOD(mmol/l)	131(128–133)	138(133–141)	0.11
CREA(mmol/l)	57(51–77)	77(66–95)	0.11
IP(n/N)	0/8	1/8	1
NEC(n/N)	1/8	0/8	1
THROM(x10^3/microliter)	288(162–407)	281(175–330)	0.66
cRI(n/N)	0.9(0.8–0.9)	0.75(0.65–0.85)	0.11
IVH(n/N)	3/8	2/8	1
ROP(n/N)	3/8	2/8	1
Mortality (n/N)	0/8	0/8	1

Background IBU is equivalent to IND for PDA-treatment. IBU reduces less cerebral, mesenteric and renal perfusion and platelet function. IND-INF seems to have similar effects on circulation, but the clinical efficacy of this approach is unclear.

Aim To compare the efficacy and safety of PDA-treatment using 36-hour IND-INF vs IBU in preterm infants.

Methods Retrospective matched-pair cohort-analysis of infants <28GA from a tertiary centre (2012–2014). Infants matched for: Chorioamnionitis, antenatal steroids, vaginal delivery, GA, birthweight, gender, surfactant-administration, mechanical-ventilation, oxygen-requirement (FiO2), PDA-width (wPDA), inotropes, fluid-intake, plasma sodium (SOD), plasma-creatinine (CREA), platelet count (THROM), cerebral resistance-index (cRI) and treatment-age. Outcome measures: wPDA, number of closed (cPDA), restrictive (rPDA), re-opened (rePDA) PDA; FiO2, BPD, SOD, CREA, intestinal perforation (IP), necrotising enterocolitis (NEC), THROM, cRI, IVH, ROP, mortality. Data-presentation: Median (interquartile range) or ratio (n/N). Data-analysis: Fisher's-Exact-/Mann-Whitney-Test ($p < 0.05$).

Results 16 newborns (8 IND-INF/8 IBU) recruited. Baseline-characteristics (GA 26 [25–27] vs 26 [25–26], p = 0.65; birthweight 842 g [597–925] vs 777 g [730–801], p = 0.88; rest not displayed) and outcomes were not significantly different:

Conclusion IND-INF appears to be as safe as IBU whilst maintaining the same efficacy for treatment of symptomatic PDA in newborns <28 GA.

PO-0496 CENTRAL VENOUS CATHETER RELATED THROMBUS ON THE NEONATAL UNIT: PRESENTATION, CLINICAL COURSE AND MANAGEMENT

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Background and aims The placement of a Central Venous Catheter (CVC) is routine clinical practice for sick and preterm infants on the Neonatal Intensive Care Unit (NICU). Such catheters are vital to ensure reliable and continuous delivery of nutrition and medication.

Thrombus related to the placement of such catheters is well described.[1]

Abstract PO-0496 Table 1 Gestation and site of thrombus

Gestation	Site
32+1	IVC, portal vein.
27+1	IVC, portal, renal veins.
27+5	IVC, renal veins.
36+5	Portal vein.
24+1	IVC, renal vein.
24+4	IVC
25+5	IVC, common iliac, renal vein.

Controversies exist around the prevention, surveillance and management of such thrombus.

We reviewed all cases of CVC related thrombus within the neonatal service over the last 3 years and to determine normal practice for managing such infants within the UK.

Methods Retrospective review of all cases of CVC related thrombus (as defined by any venous thrombus with an indwelling or recently removed catheter) within the last 3 years.

A national survey of the management of CVC related thrombus within tertiary neonatal units in the UK.

Results 7 infants (all pre term) were diagnosed with CVC related thrombus during the study period.

The national survey revealed no consensus for management.

Conclusions CVC related thrombus has been associated with 1 death and significant morbidity within our service over the last 3 years.

Further work is urgently needed to determine the scale of the problem and best practice for management.

1 Haddad H *et al*. Routine Surveillance Ultrasound for the management of CVC in neonates. *J Pediatr* 2014 Jan;164(1):118-22

PO-0497 RETROSPECTIVE AUDIT OF PREVALENCE, MANAGEMENT AND ASSOCIATED MORBIDITIES OF PDA IN PRETERM BABIES LESS THAN 30+0 WEEKS GESTATION IN A TERTIARY NEONATAL INTENSIVE CARE UNIT

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10.1136/archdischild-2014-307384.1143

Background Patent ductus arteriosus (PDA) causes significant morbidity and a dilemma of whether, when or how to manage in extremely preterm babies.

Aim Retrospective observational cohort study of the prevelance, managment and associated morbidities of PDA in preterm babies less than 30^{+0} weeks gestation.

Methods The Badger database was interrogated for babies born less than 30^{+0} weeks gestation between 01/04/09 and 31/03/12. The prevalence, management and associated morbidities of babies with PDA were compared to those without a PDA.

Results 300 babies less than 30^{+0} gestation were admitted to the tertiary neonatal unit. PDA was confirmed on echocardiography in 192 (64%) babies. 85 babies had medical and/or surgical treatment.

Conclusion Our retrospective cohort study demonstrates that despite the reduction in mortality and severe IVH in babies treated with indomethacin or had surgical ligation, their respiratory morbidities remain significant. Early targeted management of PDA may reduce these morbidities.

PO-0498 WITHDRAWN

PO-0499 WITHDRAWN

PO-0500 ANTENATAL DIAGNOSIS OF CARDIOVASCULAR MALFORMATIONS IN INFANTS OF DIABETIC MOTHERS: A DGH EXPERIENCE

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Background Pre-existing maternal diabetes is associated with a five-fold increase in the prevalence of congenital cardiovascular malformation (CVM). NICE guidelines recommend that pregnant women with diabetes should be offered antenatal examination of the four-chamber view of the fetal heart and outflow tracts at 18–20 weeks to detect congenital malformations.

Aim The primary objectives of the audit were to find out the prevalence of CVM in infants of diabetic mothers and the success rate of fetal-echocardiography in diagnosing CVM antenatally. Our secondary objectives were to find out the number of diabetic mothers booked for delivery at the Sunderland Royal Hospital and the percentage of diabetic pregnancies referred for antenatal cardiac screening.

Methods This was a retrospective audit. Data was collected from all diabetic mothers booked for antenatal care between April 2004 and December 2008 and the corresponding cohort of infants with cardiovascular malformations born between May 2004 and May 2010.

Results 89% of the 102 diabetic mothers had undergone antenatal cardiac screening. 180 infants were born with CVM during the study period (1.09% of total births). Of these, five infants were born to diabetic mothers (4.9%). Fetal echocardiogram gave the correct diagnosis in 96.7% of the cases with a specificity of 100% and a sensitivity of 25%.

Conclusions 89% of the diabetic mothers had undergone antenatal cardiac screening. Maternal diabetes is associated with 4.9% risk of CVM. VSD is the most common CVM in maternal diabetes. Fetal echocardiogram gave the correct diagnosis in 96.7% of the cases.

Abstract PO-0497 Table 1

	No PDA (n = 108)	PDA not treated (n = 107)	PDA treated (n = 85)
M:F	57:51	54:53	39:46
Median Gestation (range)	28 (27–28)	26 (24–27)	25 (24–26)
Median Birth Weight (range)	1087 (839–1222)	785 (656–945)	755 9650–880)
Median Ventilation days (range)	2 (1–6)	7 (3–15)	20 (7–29)
Median CPAP days (range)	2.5 (0–17)	14 (3–15)	31 (14–42)
Supplemental O2 days (range)	8 (2–30)	31 (10–73)	60 (27–100)
CLD (36 weeks CGA)	14 (13%)	27 (25%)	35(41%)
Home Oxygen	5 (4%)	13 (12%)	14 (16%)
NEC	7 96%)	14 (13%)	14 (16%)
IVH >Grade 3	11 (10%)	23 (21%)	9 (10.5%)
Death	31 (29%)	36 (34%)	13 (15%)