

PO-0325 **PREMEDICATION FOR NEONATAL INTUBATION: CURRENT PRACTICE IN UK NEONATAL UNITS**

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Introduction Endotracheal Intubation (ETI) is a frequently performed procedure in the neonatal unit. For ease of this procedure and to avert the abnormal physiological responses that occur, premedication with sedatives, analgesics and muscle relaxants are used in non-urgent cases. However, the optimal drug regimen remains unknown and keeps changing from previous follow up surveys.

Objectives To determine the:

- Extent and drug regimens used in premedication for non-urgent ETI in UK Neonatal units.
- Changes in practice from previous surveys.

Methods A literature review on the subject in the UK and internationally was carried out to inform a semi-structured telephone questionnaire design. A survey was then carried out between January–March 2014. Any member of the medical team or the nurse-in-charge was interviewed.

Results

- Total Number Neonatal Units surveyed=197
- 192 (97.5%) use premedication; No premedication =5 (2.5%)
- Sedatives used= 189 : Morphine 121, Fentanyl 57, Propofol 7 (5 as single agent), Midazolam 3, Remifentanyl 1;
- 12 units used a sedative as a sole agent.
- Muscle relaxants used: Always =172: Suxamethonium 149, Atacurium 18, Pancuronium 3, Vecuronium 1; as sole agent in 3 units.
- Atropine use: Always = 105; As required =20; Never used =72.
- Most widely used combination: Morphine-Atropine-Suxamethonium 58(29.5%), followed by Fentanyl-Atropine-Suxamethonium 42(21.3%).

Conclusions

- Current practice shows lack of consensus.

- Rates of premedication use show Improvement from previous studies: 1998(37%), 2007(93%) to 97.5% in the current study.

- Narrower range of sedatives are currently used.
- Morphine-Atropine-Suxamethonium still remains the commonest regimen.

Propofol is the latest addition in the last 7 yrs although there is currently very limited studies in neonates.

Intensive Care and Paediatric Emergency Care Medicine

PO-0326 **COMPREHENSIVE ANALYSIS OF EXCHANGE TRANSFUSIONS PERFORMED OVER A 6YR PERIOD IN A TERTIARY NEONATAL INTENSIVE CARE UNIT**

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Introduction

- In the 1940’s, exchange transfusion (ExT) was introduced to help decrease the morbidity and mortality associated with haemolytic disease of the newborn (HDN) and prevent kernicterus.
- ExT was subsequently applied to other causes of neonatal hyperbilirubinaemia, severe neonatal anaemia from a variety of causes, some non-immune hydrops cases, Neonatal metabolic conditions such as hyperammonaemia, severe hyperkalaemia and neonatal haemochromatosis.
- In the 1970’s when ExT was exclusively used for the management of HDN, Lucey *et al*, predicted a decrease in frequency of this procedure for HDN in future.
- Complications were estimated to increase due to the lack or decreased frequency of ExT with time.

Objectives To determine.

Abstract PO-0326 Table 1

Case	GA (Wks)	BWt (g)	Maternal Grp	Blood Maternal Antibodies	Baby Grp	Bld DCTLife	Day of Diagnosis
1	31+2	1855	A+	-	O+	- 5	Haemolysis from severe sepsis
2	40+2	3456	O+	-	A+	+1 1	ABO incompatibility
3	35+2	3240	O-	1	O+	+3 1	Rh isoimmunisation
4	39+5	3700	O+	-	O+	- 2	Hyperbilirubinaemia secondary to Haemolytic process ? cause
5	24+4	730	A+	-	A+	- 1	Haemolysis from severe sepsis
6	33+2	2150	A-	3Abs	A+	+2 1	Rh + Other Abs isoimmunisation
7	36+0	2620	A-	1Ab	O+	+3 1	Rh Isoimmunisation
8	36+0	2620	A-	1Ab	O+	+3 1	Rh isoimmunisation
9	27+4	1080	O+	-	O+	- 15	Hyperbilirubinaemia with acute Haemolysis and anaemia from Octenisan wash for MRSA-colonisation
10	35+1	2670	A-	2Abs	A+	+3 1	Rh Isoimmunisation
11	25+6	700	A+	-	B+	- 2	Hyperbilirubinaemia secondary to Accidental overdose of Lipid infusion from Total Parenteral Nutrition
12	33+2	3260	O-	-	O+	- 5	Hyperbilirubinaemia from Extensive tissue bruising and haematomas at birth
13	37+6	2045	O+	-	A+	+1 2	ABO incompatibility
14	30+1	1980	AB+	? (Had transfusions)	? inutero	? 2	Non-immune hydrops with Anaemia
15	34+2	2980	A+	-	A+	- 2	Non-immune hydrops with anaemia and Hyperbilirubinaemia

- Number of ET done over a 6 yr period.
- Patients demographics, time of ExT, Indications.
- Number of Babies who have had Inutero ExT.
- Maternal details: Blood group, antibodies.
- The level of bilirubin at which transfusion took place.
- Prior treatment pre-ExT: In-utero Tx, Intravenous Immuno-globulin (IVIG) use; use of albumin infusion.
- The ExT-related complications: Any complication not present prior to the ET which occurred within 48 hrs after the ET: Defined as follows- platelet count <150, hypocalcaemia, ionised Calcium <0.8, fits, raised INR.

Methods

- Setting: Level 3 NICU.
- Retrospective notes review of patients who underwent ExT.
- January 2008–March 2014 (6.25 yrs).
- Exclusion criteria: Those for which notes were not obtained.

Results

- Total admissions to the NICU over the period = 5,000.
- Number of exchange transfusions done = 15 in 14 patients.
- 0.3% of admissions over the period.
- Table of cases.
- Total number of request made to the Blood transfusion department for blood product for exchange.

Conclusion

- Average ExT/yr in a Level 3 NICU = 2.4/yr.
- ExT is currently being used for a variety of causes.
- There were no complications related to the procedure itself.
- Complications post-ExT were all biochemical (hypocalcaemia in 13 cases) or haematologic (low platelets 13 cases)
- Use of IVIG: Given pre-Ext to all ABO, Rh cases except 2 and to the Non-immune hydrops secondary to Parvovirus.
- 1st documented case of ExT use in hyperbilirubinaemia secondary to accidental Hyperlipidaemia from TPN-Lipid infusion and Haemolysis with Anaemia post-Octenisan wash treatment for MRSA-colonisation treatment in a preterm baby.

PO-0327 IS THE GLASGOW COMA SCALE SCORE IN THE EMERGENCY DEPARTMENT LOWER DURING THE NIGHT?

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Background The body clock may through stimulation of melatonin secretion influence the Glasgow Coma Scale Score. The aim of this study was to investigate whether the time of presentation of children in the emergency department influences Glasgow Coma Scale scores.

Methods Retrospective review of 6649 records of children presenting to an Emergency Department in a District General Hospital from August to December 2012 with comparison of patients with a GCS of <15 seen during daytime (0700 to 1900) and night time (1900 to 0700) with regards to diagnosis, disease severity (Paediatric Early Warning Score), Glasgow Coma Scale Score, age, gender and ethnic group.

Results Out of 4034 patients attending during daytime 25 had a GCS <15 and 34 out of 2592 during night time (p = 0.005). There was no difference in age, gender, ethnicity or disease

severity between groups of patients attending during day or night time. The most common condition presenting with reduced GCS both during day and night time in children were seizures (31.6%) followed by a viral respiratory tract infection (16.6%), miscellaneous other infections (20%), trauma (13.3%) and other miscellaneous conditions (18.3%). The only group of diseases with significant difference in frequency between groups were viral respiratory tract infections, which were significantly more common in children presenting with low GCS during the night (p = .017).

Conclusion Presentation of children with low GCS was more common during the night. Children with reduced GCS and viral respiratory tract infections presented more frequently during the night.

PO-0328 MONITORING OF SYSTEMIC HAEMODYNAMIC (MSH) IN CHILDREN WITH SEVERE TRAUMA BRAIN INJURY IN PAEDIATRIC INTENSIVE CARE UNIT (PICU)

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Background and aims SPTBI is frequently associated to acute circulatory failure (hypovolemia, vasoplegia, myocardial depression or tamponed). The haemodynamic systemic management objective in SPTBI is an haemodynamic stability, normal cardiac output, and assessment of blood volume status. In this way MSH has an important role to guide the management (volume expansion, vasopressor or inotrope).

The aim of this study is to improve the interest of systematically integration of MSH for management of cerebral perfusion pressure (CPP).

Method Thisprospective study was conducted between April 2013 and April 2014. For each patient with cerebral systemic oligohemia, alteration of the CPP, acute circulatory failure, the assessment of the cardiac output, mean artery pressure, blood volume status were obtained by : echocardiography, estimated continuous cardiac output (esCCO), Oesophageal doppler, NIBP. **Results** on a total of 20 patients with SPTBI, 41 measures were realised.

- Cardiac Index was normal (> 3 l/min/m²) in13 patients with cerebral systemic oligohemia in transcranial doppler (TCD).

- Cardiac Index was abnormal < 3 l/min/m² » in 7 patients.

- All patients was treated: o Noradrenaline was introduced in 14 patients with objective of CPP, 2 of them had a profound vasoplegia « DAP < 40 mmHg »: o Volume expansion in 18 patients « fluid responsiveness based on the respiratory variation aortic flow peak velocity, SV, and inferior vena cava »

Conclusion Assessment of CO, blood volume status, vascular resistance based on a systemic monitoring allows the optimisation of PPC evaluated with TCD.

PO-0329 MULTIMODAL HAEMODYNAMIC MONITORING (HSM) FOR THE MANEGEMENT OF ACUTE CIRCULATORY FAILURE (ACF) IN PAEDIATRIC INTENSIVE CARE UNIT (PICU)

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