Background Therapeutic hypothermia (TH) is an established modality for the treatment of neonates with hypoxic-ischemic encephalopathy (HIE) grade II to III. Facility for total body cooling (TBC) was not available in our region (Malabar region, Kerala, South India, where highest delivery rate, compared to rest of India) even though there was significant incidence of perinatal asphyxia cases. In India 19.2% of NMR is caused by several intrapartum complications and asphyxia. In this region, significant proportion of delivery happens in private hospitals, which has financial implications.

Objectives To share our experience with TBC and neuro-developmental outcomes of surviving babies and to prove that this treatment modality can be used with low cost devices in our region for the benefit of neonates with perinatal asphyxia.

Methods

Setting: A tertiary referral center in Kerala with catchment population of seven million. This unit is accredited by Indian Academy of Pediatrics and National Neonatology Forum India.

Methods This was a prospective study of 30 newborns admitted with HIE grade II to III for 2 years (from January 2016 to December 2017). TOBY trial UK and NNF India guideline for total body cooling were followed. Cooling device was used is a low cost device researched and made in India as phase changing material (PCM- 'Mira cradle', cost \$ 4300).

Type of Study and Data Collection: Data were collected from clinical notes and electronic patient records, analyzed on the basis of maternal detail, baby details, severity of HIE, complications noticed during TH, and neuro-developmental follow up (based on Trivandrum development scale) at 1,3,6,9,12,15,18 months,

Statistical Analysis The results were expressed as number and percentage or by the average

Results According to inclusion criteria, 30 babies underwent therapeutic hypothermia. Arrival beyond six hours of life was the main factor for exclusion. Overall survival was found to be 84% and mortality was 16%. Out of 84% survivors 80% babies had normal neuro-developmental outcome on follow up up-to 18 months. Out of 25 survived babies 5 (20%) were found to be neuro-developmentally abnormal on discharge. Out of these 5 babies 2 were having severe developmental delay, 2 had moderate developmental delay and one lost follow up.

Out of the total 30 babies, 5 babies died while receiving TH. The main causes were multi-organ dysfunction syndrome, pulmonary hypertension and tension pneumothorax, disseminated intravascular coagulation, myocardial dysfunction and cardiac arrest. All these 5 neonates were outborn with grade III HIE.

Conclusions This single center study helped to prove the safety and efficacy of low cost cooling device with PCM. Ideally an aEEG assessment should be there. (But because of high cost of equipment, we have not used this). There were no major side effects documented in this study. By this study we were able to prove the efficacy and feasibility of low cost device as PCM for total body cooling, in developing countries.

Association of Paediatric Emergency Medicine

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EVALUATING THE USE OF CHEST RADIOGRAPHS IN A PAEDIATRIC EMERGENCY DEPARTMENT

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Background Requests for chest radiographs in children attending the Bristol Royal Hospital for Children (BRHC) ED were noted to be increasing 2017–2019, with predictable winter peaks, particularly in November. Previous work questions the utility of chest radiographs and their impact on management of common paediatric presentations to ED, including LRTI, bronchiolitis and wheeze.

Objectives To describe the patient cohort undergoing chest radiographs in a paediatric ED within a tertiary children's hospital in terms of age, indication and final ED diagnosis.

To quantify the proportion of abnormal ('positive') and normal ('negative') chest radiographs, as reported by radiologists, with respect to indication and age.

To quantify the proportion of patients undergoing a chest radiograph receiving antibiotics and whether these were prescribed before or after imaging.

Methods Retrospective review of patients who attended the BRHC Paediatric ED undergoing chest radiograph in the first two weeks of November 2017–2019. Data for age (split into 0–11 months, 1–4y, 5–10y and 11+ groups), indication for radiograph, the final coded ED diagnosis, radiograph findings and antibiotic treatment were collected.

Results The 1–4y age group represented the largest proportion of radiographs, accounting for 53% of all requests.

Table 1 shows the five most common indications are shown below. CAP/LRTI was the most common indication in all age groups, accounting for 55% of total requests.

The five most common final coded diagnoses are shown below. URTI and bronchiolitis are commonly coded discharge diagnoses in this cohort.

Over three years, 302 chest radiograph requests were made. Across all groups, 67% were reported as normal. In the 0–1y age group, 83% of radiographs were normal.

135 patients received antibiotics; 62% were prescribed after chest radiograph.

Conclusions Our data shows that use of chest x-rays has steadily increased over the studied period. Although BTS guidelines suggest relatively limited indications for chest x-rays in the setting of CAP in children, this remains the most common reason given for our patients to undergo a chest radiograph. Importantly, a significant majority of x-rays were reported as normal, especially among infants.

Targeting chest radiographs more effectively may be helpful for several reasons. Firstly, there is limited evidence that they are helpful in distinguishing bacterial pneumonia from other aetiologies. Although the retrospective nature of our data poses challenges, it suggests that clinicians tend to make antibiotic treatment decisions at least partly based on x-ray

Abstract 801 Table 1 Stated indications

	CAP	Effusion	Cardiac	Wheeze	Foreign Body
2017	62%	13%	7%	7%	1%
2018	55%	3%	6%	3%	2%
2019	45%	5%	2%	5%	10%

Abstract 801 Table 2 Discharge diagnoses

	CAP	Cardiac	VIW/Asthma	URTI	Bronchiolitis
2017	43%	4%	8%	15%	7%
2018	31%	0%	15%	17%	15%
2019	26%	0%	13%	8%	15%

findings. Secondly, all other things being equal, a patient undergoing x-ray will spend longer in ED than one who does not. This potentially has an impact on patient flow, even more important with the current need for social distancing.

We plan to use this data as a baseline for future quality improvement work with the aim of reducing chest X-ray use in patients unlikely to benefit.

British Association of Perinatal Medicine and Neonatal Society

803 RETINOPATHY OF PREMATURITY: INCIDENCE AND RISK FACTORS: A HOSPITAL BASED STUDY

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Background Survival rate of preterm neonates have reported to be higher compare to previous due to recent advancement in neonatal care with subsequent increase in the number of babies affected by retinopathy of prematurity (ROP). This study evaluates the incidence of ROP and estimates associated potential risk factors.

Objectives To evaluate the risk factors predisposing to severity of retinopathy of prematurity (ROP) in a level III neonatal unit. ROP screening was done by experts from Aravind Eye Hospital, Coimbatore, Kerala using RETCAM. Treatment was offered for Type I ROP and aggressive posterior retinopathy of prematurity (AP-ROP) with intravitreal Injection Bevacizumab (Avastin) and LASER.

Methods Prospective study on infants fulfilling the screening criteria admitted to Neobless (Neonatal Unit, Moulana Hospital Perinthalamana, Kerala, India) between November 2017 to April 2018.

Babies admitted to Neobless who met the following criteria for ROP screening, according to Neobles guidelines for screening, were included in the study.

(a) < 34 weeks gestation, (b) ≤1800 g of birth weight, (c) Babies >1800 g or born after 34 weeks with unstable clinical course requiring cardio respiratory support.

ROP was graded into stages and Zones as per International Classification of ROP (ICROP). Type I ROP or Threshold ROP, is defined as Zone 1 any stage ROP with plus disease,

Zone 1 stage 3 ROP without plus disease and zone II stage 2 or 3 ROP with plus disease. Aggressive Posterior ROP (APROP) is defined as severe plus disease, flat neovascularization in Zone I or Posterior Zone II, intra-retinal shunting, hemorrhages and rapid progression to retinal detachment. Type I ROP and APROP have been grouped into Severe ROP Group, who required treatment for ROP. Type 2 ROP or pre-threshold ROP is defined as zone 1 stage 1 or 2 ROP without plus disease and zone II stage 3 ROP without plus disease. ROP screening was done by experts from Aravind Eye Hospital, Coimbatore using RETCAM.

Treatment was offered for Type I ROP and APROP with intravitreal Injection Bevacizumab (Avastin) and LASER.

Results Out of that 91 babies, who fulfilled the screening criteria, were included in the study. Out of 91 infants screened 9 (9.8%) were diagnosed as Severe ROP and required treatment, the remaining 82 babies (90.2%) did not require treatment (Non ROP group). Out of the 9 cases with Severe ROP, 8 were treated with intravitreal injection of Bevacizumab (Avastin) and only one case required Laser treatment. All of them had good outcome on subsequent follow ups.

Conclusions There was found to be significant association between duration of oxygen therapy (p value <0.001), sepsis (p value <0.001) and blood transfusions (p value 0.001) with Severity of ROP.

British Inherited Metabolic Disease Group

805 CONGENITAL DISORDER OF GLYCOSYLATION WITH FIBULAR HEMIMELIA

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Background Congenital disorders of glycosylation (CDG) are a group of hereditary diseases characterized by the deficiency of enzymes involved in proteins glycosylation. CDG are multisystem diseases, caused by more than 140 different genetic defects in glycoprotein and glycolipid glycan synthesis. The most known CDG is PMM2-CDG, in which the genetic defect leads to the loss of phosphomannomutase 2 (PMM2), the enzyme that catalyzes the conversion of mannose-6-phosphate into mannose-1-phosphate.

Fibular hemimelia is also a congenital lower extremity anomaly characterized by complete or partial absence of the fibula. This deformity may consist of only fibular shortening or maybe together with femur, tibia, ankle, and foot deformities. Although rare in occurrence, it is the most common congenital absence of long bone of the extremities. Fibular hemimelia is usually an isolated anomaly and occurs sporadically. However, in our case, it occurred together with congenital disorders of glycosylation.

Objectives We aim to share the clinical features of a patient diagnosed with congenital disorders of glycosylation which has fibular hemimelia and contribute to an increase in the awareness of this disease group.