Methods A web-based questionnaire survey was sent out to junior paediatric doctors, Advanced Neonatal Nurse Practitioners (ANNP) and consultants to determine their experience and understanding of Difficult Airway Management in Neonatal medicine clinical practice. Also assessed was their confidence level on a 1 to 5 scale on neonatal intubation. The responses were analyzed using Excel.

Results 83 responses were received which were constituted by 17% (14) Senior House Officers, 55.4% (46) Registrars, 18% (15) Consultants and 9.6% (8) ANNP. Those in run through training program were ST1–3 (11), ST4–5(21) and ST6–8 (20).

Highest neonatal hospital experience was gained in Tertiary hospital Neonatal unit by 54%(45),in District General Hospital with level 3 neonatal unit by 30% (25), level 2 by 10.8%(9) and the rest in level 1 unit.

Previous Neonatal Experience: 33.7% (28) more than 5 y experience, 3–5y experience in 14.4% (12), 31.3% (26) had 1–3 yrs, 6 mo–12 mo by 9.6% (8), 3–6 month experience in 8.4% (7). 3.6% (3) were working for the first time in NICU.

Confidence Level on Neonatal Intubation: 47% (39) reported to be very or extremely confident. 31% (26) were somewhat confident and 22% (18) were not so or not at all confident.

Nearly half (46%) were not aware of any DAM guidelines, Only 7% (6)were aware of both National and Local Guidelines. 20% (17) knew about National guidelines and 26%(22) were aware of local guidelines. Overall only 10 (21.7%) Registrars and 3 (37.5%) ANNP'S were aware of National Guidelines.

Training on DAM: 44.5% (37) had never received any training and were interested to attend training course, 24% (20) had received between 1–3 y and 12% (10) had >3y ago. Out of 45 registrars overall, 21 (47%) have never had a training session.

Difficult airway was reported to be encountered by 53% (44) and 5% (4) did not know what is meant by Difficult Airway.

Use of airway adjuncts- Supraglottic Airway Device (SAD) and Video Laryngoscope (VL): both not used by 36% (30),10.8% (9)had experience using both only 6% (5) had used SAD, only 29% (24) reported to have used VL, 16% had used each of them in simulation.

Conclusions There seems to be a wide variation in the knowledge and skills of DAM among neonatal clinicians.Only half of the clinicians who took part in the survey seemed to been aware of any DAM guidelines, only a minority seem to have received formal training in this scenario. We intend to address this locally and regionally by robust training and guidelines by working with the deanery and integrated care systems.

Paediatric Special Interest Group: British Society of Haematology

798

BONE MINERAL DENSITY AND CALCIUM STATUS IN CHILDREN WITH B-THALASSEMIA

Magdy Fawzy. Basildon University Hospital

10.1136/archdischild-2021-rcpch.205

Background Bone disease in thalassemia in the form of low bone mass remains a frequent, debilitating and poorly

understood problem, even among well transfused and chelated patients. Frequent blood transfusion has increased the life expectancy of patients with β -thalassemia major, but it causes progressive iron overload. Iron deposits saturate transferrin in the reticuloendothelial system; enter the parenchyma, causing important oxidative damage, mostly to the heart, liver and endocrine glands.

Objectives In this work we attempted to delineate calcium status and bone mineral density in a group of transfusion dependent β -thalassemic patients of both sexes.

Methods In This cross sectional study we attempted to assess Bone Mineral Density (BMD) in 50 thalassemic patients (39 major and 11 intermedia), aged 5–18 years of both sexes on regular blood transfusion and adjusted iron chelation therapy recruited from the Hematology department at a tertiary hospital. Egypt,as well as, fifteen children taken as a control group, by usage of Dual Energy X Ray Absorptiometry technique (DEXA) for Bone Mineral Density (BMD) of total body and lumbar spine. The effects of age, sex, consanguinity, transfusion/chelation program as well as hemoglobin, serum calcium, phosphorus, alkaline phosphatase on BMD were also evaluated.

Results Out of our 50 studied thalassemic patients, 9 patients (18%) had normal BMD (Z score >-1), 41 patients (82%) had low both total and lumbar BMD. Patients showed lower BMD of total body and lumbar region, Z-score is (-1.5 ± 1.2), (-2.4 ± 1.7) respectively in comparison with age and sex matched normal control (-0.2 ± 0.9), (-0.1 ± 1). Both parameters are correlated significantly with age of the patients, duration of transfusion and chelating therapy, serum alkaline phosphatase, Mean Height and Weight Z score. Total BMD was correlated significantly with serum calcium and phosphorus while other clinical, biochemical and hematological parameters did not influence BMD values.

Conclusions Bone mineral density is a good index of bone status in patients with Thalassemia and should be done annually. To optimize BMD in Thalassemic patients, it is important to ensure adequate iron chelation and adequate intake of calcium and vitamin D. Close follow-up and early recognition of osteopenia as well as proper management are crucial for every thalassemic patient giving him/her the right to live a better life. We recommend early routine BMD screening before puberty, which is proposed to be a sensitive predictor for early bone changes, in particularly at the lumbar spine. Osteopenia and osteoporosis should be assessed annually via DXA scan. Bone pain and fractures should be an emphasis. Further studies on a wider scale are required to fully clarify the precise environmental and genetic mechanisms underlying bone metabolism derangement in thalassemic children.

British Association of Perinatal Medicine and Neonatal Society

800

FEASIBILITY OF THERAPEUTIC HYPOTHERMIA IN NEONATES WITH PERINATAL ASPHYXIA USING LOW COST DEVICE IN DEVELOPING COUNTRIES AND TO EVALUATE THE OUTCOMES

¹Ankur Gupta, ²Vidya Sukumar. ¹Leicester Royal Infirmary Leicester UK; ²Sree Narayana Institute of Medical Sciences, Chalaka, Kochi, Kerala, India

10.1136/archdischild-2021-rcpch.206

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

801

EVALUATING THE USE OF CHEST RADIOGRAPHS IN A PAEDIATRIC EMERGENCY DEPARTMENT

¹Nathan Collicott, ²Sophie Perry, ²Roisin Begley. ¹Gloucestershire Hospitals NHS Foundation Trust; ²University Hospitals Bristol and Weston NHS Foundation Trust

10.1136/archdischild-2021-rcpch.207

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