therefore could help in implementing rational antibiotics use. But studies determining viral etiologies have not been studied much in developing countries like India.

Objectives To study viral etiology in children hospitalized with moderate to severe Acute Lower Respiratory Tract Infection (ALRTI) over a period of two years and to detect impact of co-infection on severity and duration of hospitalization.

Methods We performed a study in children of age group one month to five years admitted in PICU and HDU of a tertiary care hospital of eastern India, with moderate to severe respiratory symptoms from march 2018 to march 2020. Nasopharyngeal swabs were collected at the time of admission and analyzed by using Real time PCR. Eighty two children were enrolled for study, out of which 51 were detected positive for viral infections and they were analyzed for etiological, clinical and laboratory parameters.

Results The highest positivity rate was observed in children in age group 1- 12 months (58.8%), 1- 5 years (42.2%). Our study confirmed 62 percent viral etiology. Adenovirus was detected in 35.5% of samples; RSV in 25.5%, rhinovirus in 10%, co-infection in (17%) and remaining 18% included metapneumovirus, influenza, human corona and parainfluenza virus. Clustering of cases were observed in the months of september-october and january- february. Comparison between single and co-infection in terms of complications(p value 0.06), average duration of stay(p value 0.2) and inflammatory parameters (p value 0.47) were not significant.

Conclusions Adenovirus and RSV are the leading viral pathogens for ALRTI requiring HDU care. Vaccine and antiviral agents are required to reduce ARTI hospitalization.

British Association of Perinatal Medicine and Neonatal Society

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GLUCOSE GEL IN THE DELIVERY ROOM REDUCES HYPOLYCAEMIA IN PREMATURE BABIES

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10.1136/archdischild-2021-rcpch.516

Background Background: Buccal glucose gel is a well-established treatment for hypoglycaemia in term and late preterm babies. Prophylactic use, and use in preterm babies, are poorly studied. Newborn preterm babies are vulnerable to hypoglycaemia after cord-clamping which is traditionally not addressed until IV cannulation on the neonatal unit.

After a retrospective audit highlighted high levels of hypoglycaemia on admission to the neonatal unit, a working group decided to explore glucose gel as a strategy to improve glycaemic control in the delivery room.

Objectives

Objective to reduce hypoglycaemia in preterm babies <34 weeks through prophylactic administration of glucose gel during delivery room stabilisation.

Methods

Methods We used PDSA cycles to implement and continually adapt a guideline for administering glucose gel in the delivery room. We collected data on 102 babies who received glucose gel, comparing to the initial retrospective cohort of 100 babies who did not. We classed an acceptable blood sugar as $\geq 2.0\text{mmol/L}$.

Results

- Significant reduction in severe hypoglycaemia ($<1\text{mmol/L}$) on admission in babies <34 weeks from 15% to 6% ($p<0.05$)
- Reduction in overall admission hypoglycaemia ($<2.0\text{mmol/L}$) from 38% to 26% ($p=0.07$)
- Increase in mean BSL on admission from 2.3mmol to 2.9mmol ($p<0.05$)
- No increase in significant adverse events

Conclusions

Conclusion

- The prophylactic use of glucose gel for preterm babies in the delivery room may safe and effective in reducing the rate of severe hypoglycaemia on admission to the neonatal unit, and this practice is now incorporated into our units preterm stabilisation pathway
- PDSA cycles were an effective way to engage the whole team in designing our protocol

Paediatricians with Expertise in Cardiology Special Interest Group

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MANAGEMENT TRENDS AND OUTCOMES OF NEWBORNS DIAGNOSED WITH PERSISTENT PULMONARY HYPERTENSION OF THE NEWBORN IN A DISTRICT GENERAL HOSPITAL

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Background Persistent Pulmonary Hypertension of the Newborn (PPHN) affects around two infants out of 1000 live births and has significant morbidity (1). It develops due to sustained foetal circulation with raised pulmonary vascular resistance and normal to low systemic pressure. The usual presenting feature is labile hypoxaemia due to right to left shunting via patent ductus arteriosus. Common causes include meconium aspiration syndrome (MAS), sepsis. Aggressive and early treatment with inhaled nitric oxide and inotropic agents has been shown to have better outcomes and avoid the need for extracorporeal membrane oxygenation (ECMO) treatment.

Objectives The objectives of this audit were to review management and outcomes of babies treated for PPHN in a District General Hospital with a Level 2 Neonatal Unit.

Methods A retrospective search was carried out on Badger and local electronic patient record system to identify babies with diagnosis of PPHN during a period of 12 months. A structured proforma was used to collect and analyse the data.

Results During the 12 month period there were 20 babies that were coded for PPHN diagnosis. 16 of them were selected for further analysis (4 were excluded: 1 had congenital heart defect, 1 had pulmonary hypoplasia due to renal condition, 1 had hypoxemia and systemic hypotension due to sepsis, and 1 was coded incorrectly) This unit delivers around 600 babies a year. 15 babies were born at term (>37 weeks of gestation) and one born at 32 weeks. 13 babies had meconium aspiration syndrome, 1 had sepsis and 2 had no clear cause for PPHN and were born by elective C section. 10 babies admitted to Neonatal unit within 1 hour of birth and 14 were

intubated and ventilated within 6 hours of age. 9 babies had raised pulmonary pressures confirmed on echocardiography, while 7 did not have it prior to transfer to a tertiary centre. 14 babies received surfactant and inhaled nitric oxide (iNO), 6 babies required high frequency oscillation ventilation (HFOV) and none of the babies needed ECMO. Out of the 14 babies who received iNO, 8 received it within 8 hours of admission. Inotropic agents were started within 8 hours of admission for 11 babies, and within 12 hours for 15 babies. 14 babies were transferred to Level 3 NICU or PICU. All babies survived to discharge, 15 babies went home within 4 weeks of birth.

Conclusions More aggressive and robust treatment of PPHN with early ventilation, use of iNO and inotropes has eliminated the need of ECMO. In the past this unit had high rates of babies requiring ECMO - 3 babies a year on average. This study has shown a great improvement of outcomes for babies with PPHN despite the seriousness of the condition.

Quality Improvement and Patient Safety

1265 PIP! ONE PAEDIATRIC DEPARTMENT'S QUALITY IMPROVEMENT JOURNEY

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Background The Paediatric Improvement Plan (PIP) is a 12 workstream plan covering the main paediatric areas in the hospital as well as key themes such as medicines management. It was constructed to ensure the department provides the level of care expected by the Trust and the Care Quality Commission (CQC). 27 of the actions within the plan address the CQC domain 'safe', 25 'well led', and four 'effective'.

Objectives The main aims were:

- Documentation of operational policies and practices.
- Ensuring nursing training competencies were met, documented and used to facilitate safe rostering.
- Standardising paperwork and practices.
- Improving communication around governance.
- Ensuring children and young people cared for outside the paediatric department were provided with equitable care.

Methods The PIP started with 50 points to be actioned, and review identified a further six. These were split into three time divisions based on importance and feasibility of implementing the recommendations. The majority fell into the 0–6 month timeframe (other timeframes are 6 months–2 years and 2–5 years). Points were marked as 'Red' if no action had been taken, 'Amber' if action was in progress, 'Green' if actions were complete, and 'Blue' if the impact had been evidenced.

Results Over a four month period, 34 (92%) 'Red' actions have been addressed and 10 completed ('Green' or 'Blue'). There are now no 'Red' actions in the 0–6 month timeframe.

Key achievements:

1. A rapid access clinic has been established to see patients who require urgent but not emergency review. It also addresses training needs of paediatric registrars.

2. Evidencing and documentation of nursing competencies such as life support training has improved and is factored into rostering.
3. Training on nurse-led discharge, medicine management, 'TTA' pre-packs and controlled drugs has resumed.
4. Seven operational and clinical policies were written, and another five are in progress. Many involved clinicians who had not previously written such documents.
5. While awaiting the Trust wide introduction of governance boards, a monthly paediatric governance newsletter was designed. Neonatal governance meetings were reintroduced and a monthly medicine management meeting started.
6. A neonatal quality improvement group now meets monthly.

Conclusions A written plan with clearly documented actions, responsible owner and timeframes proved invaluable, as did having a co-ordinator with dedicated time. Involving and motivating the whole multi-disciplinary team was perhaps most crucial to the success of the PIP.

My background as a paediatric registrar allowed me to see through a clinical lens and understand competing demands. During the four month period, 11 junior doctors became involved in improvement projects, and a number joined the neonatal quality improvement group.

The COVID-19 pandemic created unique challenges. Demands on the workforce were immense and there was little spare capacity to take on additional improvement work. Many face-to-face courses and training sessions were cancelled or moved online. This remains a challenge to addressing outstanding training requirements, particularly life support training for nursing staff.

Quality Improvement and Patient Safety

1266 STANDARDISING CARE – NORTHERN IRELAND REGIONAL PAEDIATRIC GENTAMICIN CHART

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Background Gentamicin is one of the most commonly reported medications associated with drug errors amongst paediatric inpatients.¹ Such errors include inappropriate dosing, insufficient monitoring and lack of awareness of its role in acute kidney injury (AKI). As with other aminoglycosides, gentamicin side-effects are dose-related, highlighting the significance of dose calculation and therapeutic monitoring.

Collaborative services is one of the key recommendations from the RCPCH standards for paediatric care.² Within Northern Ireland there is a well-established regional neonatal gentamicin prescription chart, however, it has previously lacked a paediatric equivalent. Lack of standardisation of practice across units is a common source of frustration for paediatric trainees and trainers. It also contributes to variations in care across Northern Ireland.

Objectives To improve gentamicin prescription, drug monitoring and avoidance of nephrotoxicity, through the design, implementation and evaluation of a standardised gentamicin prescription chart for children (one month to sixteen years old). Particular emphasis was placed on dose adjustment and close monitoring in renal impairment, and ideal-body-weight