SP4 NICU STAFF PERSPECTIVES ON THE PROPOSED INTRODUCTION OF STANDARDISED DRUG INFUSION CONCENTRATIONS

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10.1136/archdischild-2023-NPPG.49

Background In April 2021, the NPPG proposed standardised concentrations (SC) of IV drugs for use within the PICU environment, this was supported by the RCPCH and is beginning to be implemented nationally.[1] These concentrations were deemed to be suitable for all children over 2kg, therefore the neonatal population especially preterm infants need further consideration. Many United Kingdom NICUs still use weight-based dosing and therefore the concept of SC would constitute a significant change in practice which requires careful thought and preparation prior to implementation. The aim of using SC is to improve medication safety within our neonatal units as they have been shown to be safer and more efficient than the weight-based prescribing currently classed as standard practice.

Aim To obtain the views of neonatal staff on the concept of introducing standardised drug infusion concentrations.

Method Potential SC for NICU drug infusions were compiled and a briefing paper sent to senior neonatal staff including comparisons with current practice to illustrate what the change might mean. A semi-structured focus group was led by the neonatal pharmacists to discuss the concept of SC and conceivable problems with implementation. The focus group consisted of 11 Neonatologists, the neonatal unit matron, and six Band 7 nurses including the nurse lead for the neonatal transport service and the system manager of the clinical information systems in critical care.

Results Discussed advantages of SC included the ease of preparation, standardisation across the neonatal network improving transfers between units, and the potential for compatibility testing with other drugs and parenteral nutrition. Concerns included the expense and storage of pre-filled syringes, and selecting the correct concentration at both prescribing and administration stages when several options are available. The consensus was that robust guidance would be required including which initial concentration to select dependent on patient weight and methods employed to reduce the chance of picking errors. Education was a dominant theme to ensure all medical and nursing staff were confident in calculating rates, they would have the electronic drug templates and smart pumps with drug libraries providing an additional check. When asked about launching SC on NICU, it was agreed that all drugs with SC switch on a specified date but acknowledged that not all drugs would have a SC on NICU and therefore a hybrid system would initially be required.

Conclusion This work demonstrates the initial thoughts and concerns of NICU staff that need consideration whilst planning implementation of SC of IV drug infusions to encourage a smooth and safe transition in changing practice. The consensus was to launch all new standardisation concentrations at the same time to avoid confusion, ensuring that necessary staff support, and education was in place. Limitations of this work were that not all grades of staff were invited to the focus group and views were only from one tertiary NICU and it is known that practices differ between units within the region.

REFERENCE

1. Neonatal and Paediatric Pharmacists Group. (2021). Standardising intravenous infusion concentrations for children in the UK. A Proposal for a National Approach. Available from: https://www.rcpch.ac.uk/sites/default/files/2021-05/Standard%20Infusions%20JMC%20Paper%20v0.2.pdf

SP5 'FAVIPIRAVIR ODYSSEY' (RESPIRATORY SYNCYTIAL VIRUS TREATMENT AND MONITORING IN SEVERE COMBINED IMMUNODEFICIENCY)

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10.1136/archdischild-2023-NPPG.50

A patient with a failed bone marrow transplant on paediatric intensive care unit (PICU) was commenced on Favipiravir as part of management to suppress Respiratory Syncytial Virus (RSV) on the background of Severe Combined Immunodeficiency Disease (SCID). As a non-formulary and unlicensed medication, this was approved via the Trust's Medicines Management pathway based on relevant literature, expert opinion, and anecdotal information from another children's hospital. Known adverse reactions of enteropathy, hepatitis and hyperuricemia were balanced up against the risk of the child dying from untreated pneumonitis. Medicines supply was sourced from Japan and the product was assessed, over labelled, and released by the Quality Control team before dispensing to the ward. Drug dosing was communicated to the medics. Drug administration was via the nasogastric (NG) tube; the pharmacist provided advice on crushing and dispersing in water for NG administration.

Favipiravir levels were required for dose optimisation however this could only be conducted by a laboratory in France. Trough and peak bloods had to be obtained on treatment day 7 which were then centrifuged and frozen awaiting international courier delivery, thus maintaining the cold chain. The Pharmacist liaised between the medical, nursing, laboratory and transport teams in addition to the recipient laboratory professor in France to facilitate this complex process. Favipiravir level results were returned to pharmacy via email, 11 days after being taken on the ward, and these showed a low trough level< 0.25micrograms/ml. The pharmacist liaised with the testing professor in France, a pharmacologist and the patient's consultant and it was agreed to increase the dose frequency from twice daily to three times a day. Furthermore, the M1 metabolite level was measured to ensure sufficient metabolic clearance to avoid toxicity. Following this, repeated bloods were taken after 7 days of the increased dosing regimen and delivered following the previous process, again orchestrated by the pharmacist. This showed the drug level had increased and it was agreed was optimal for this patient.

The patient received the proposed medication in a timely manner and the nursing team were provided with clear information on how to administer it. Monitoring was successfully overseen by the ward pharmacist leading to dose optimisation and ensuring safe use of a medication which was unfamiliar to the multi-disciplinary team (MDT).

This event shows the value the ward pharmacist can add to patient care, medication safety and optimisation in a secondary care setting. Excellent organisational and communication skills were demonstrated to various teams, departments, NHS