Patient Safety Alert

Risk of severe harm and death from infusing total parenteral nutrition too rapidly in babies

A new warning alert has been issued by the NHS central alerting system (CAS) on 27th September highlighting the potential risk of harm and death from infusing parenteral nutrition (PN) too rapidly in infants. The alert is relevant to medical and nursing staff working on some paediatric wards and most neonatal units and other services involved in the delivery of PN including pharmacists and dietitians.

From incident reporting, three main types of error were identified: lipids were infused at the rate intended for the aqueous solution, incorrect infusion rate, and miscalculation of volumes.
The rate at which PN is infused to babies is crucial: if infused too fast there is a risk of fluid overload, potentially leading to coagulopathy, liver damage and impaired pulmonary function as a result of fat overload syndrome.

Two nurses at the cot side cross checking intravenous infusions play a fundamental role in reducing the risk of administration errors but may not be sufficient in isolation. The use of different coloured bags to cover the aqueous and lipid bags, different pumps with inbuilt safety software and giving sets for the two PN components may help to decrease the risk for potential errors further. Mandatory staff training updates and competency assessments should be in place. PN pharmacists are encouraged to provide additional checks whilst on rounds.

All NHS organisations providing care where parenteral nutrition is administered to neonates and infants should consider if immediate action is needed to be taken and a strategy to reduce the risk of harm to babies through PN administration in place by 8th November 2017.

The full alert is available on: https://improvement.nhs.uk/news-alerts/infusion-total-parenteral-nutrition-too-rapidly-in-babies

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