To compare the duration of patency of peripheral intravenous cannulas between continuous infusion and intermittent flushing, while using a needleless intravenous connector in newborns admitted to the neonatal intensive care unit (NICU)” Hoff et al (2019).

Abstract:

Objective: To compare the duration of patency of peripheral intravenous cannulas between continuous infusion and intermittent flushing, while using a needleless intravenous connector in newborns admitted to the neonatal intensive care unit (NICU).

Methods: This is a prospective cohort study, including neonates admitted to the NICU who needed a peripheral intravenous cannula for intermittent administration of intravenous medication. In the first period, neonates received continuous peripheral infusion with NaCl 0.9% at 0.2 mL/h. In the second period, cannulas were flushed with NaCl 0.9% (0.5 mL before and 0.3 mL after the administration of intravenous medication).

Results: A total of 113 neonates (210 cannulas) were included in the study, 55 received continuous peripheral infusion and 58 received intermittent flushing. Intermittent flushing resulted in a significantly longer duration of cannula patency compared to continuous infusion (geometric mean 47.1 vs. 35.4 h, P=0.041). The incidence of extravasation was higher with continuous infusion (68.9% vs. 43.2%; P=0.001), while occlusion was more common with intermittent flushing (28.4% vs. 6.6%; P=0.002).

Conclusions: Intermittent flushing of peripheral cannulas (using needleless intravenous connectors) results in longer cannula patency compared to continuous infusion, in neonates requiring only intermittent administration of medication.

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