We conducted a prospective observational study to examine PIVC-related complications in level III NICUs of two university medical centers (UMC) in The Netherlands” Legemaat et al (2016).

Abstract:

Introduction: Neonates admitted to a neonatal intensive care unit (NICU) rely highly on intravenous (IV) therapy, for which the peripheral intravenous cannula (PIVC) is the preferred device to allow such therapies to proceed. Placement of a PIVC is a painful procedure and repeated attempts for successful insertion should therefore be limited. We aimed to quantify the incidence, complications, and factors associated with these complications.

Methods: We conducted a prospective observational study to examine PIVC-related complications in level III NICUs of two university medical centers (UMC) in The Netherlands. We performed descriptive analyses and binary logistic regression analysis to identify factors associated with PIVC complications.

Results: A total of 518 catheters were inserted in 235 infants. The first-time success rate was 45%. The predominant reason for non-elective removal due to complications was infiltration
(N = 193; 67%). No significant association was found between discipline of the inserter, vein visualization device and location of the PIVC and whether or not a catheter needed to be removed due to a complication.

Conclusions: In this study the majority of PIVCs were removed after the occurrence of a complication. The most common complication was infiltration. Strategies to identify and prevent infiltration in an NICU population are required. Future interventional studies should attempt to improve first-time insertion success and reduce PIVC failure from infiltration in the neonate. Based on the results of the present study, neonatologists and physician assistants are the preferential PIVC inserters. Advanced training of all members of vascular access specialist teams and ongoing monitoring of PIVC-related complications are recommended.

Reference:


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