Abstract:

Background: PICC line use is a common practice in neonatal units, but it is associated with various complications. Catheter migration is the most common complication in neonates. Periodic imaging is recommended to monitor the tip position of the PICCs, but the optimal frequency is undetermined. The incidence, timing and risk factors that are associated with PICC migration have not been fully investigated beyond 24 hrs in neonates. The aim of the study was to determine the incidence, timing and risk factors that are associated with peripherally inserted central venous catheter (PICC) migration in neonates.

Methods: This was a single center, retrospective study of 168 PICCs placed in 141 neonates in the neonatal intensive care unit (NICU) between 2015 and 2016. The incidence of catheter migration was determined radiographically at 12-24 hrs and every third day after insertion until it was removed.

Results: Overall incidence of PICC migration was 28% and most commonly was detected within the first three days after PICC placement (83%). The incidence of PICC migration was higher in males. The PICC migration was associated with difficulty advancing the PICC at the time of insertion and PICC dressing change.

Conclusion: Serial evaluation of PICC placement in neonates is required to maintain proper position. Based on our experience in our unit, we recommend periodic imaging at 12-24 hrs and on the third day after PICC placement as most migration occurred within three days after insertion.

Reference: