To describe the characteristics of pleural effusion (PLE) associated with PICC use in a large level III neonatal intensive care unit”


Abstract:

Background: Although peripherally inserted central catheters (PICCs) provide vascular access in newborns who require parenteral nutrition and medications, they can be associated with complications that lead to significant morbidity and mortality.

Objectives: To describe the characteristics of pleural effusion (PLE) associated with PICC use in a large level III neonatal intensive care unit.

Design/Methods: A retrospective review of PICC-related PLE in newborns was conducted over a 5-year period, from 2008–2012. Results: A total of 926 PICCs were inserted, accounting for 17,606 catheter days. PICC-related PLE was identified in 7 infants, with an incidence of 0.4 per 1000 catheter days. Infants who developed PLE had a median gestational age of 28 weeks (range, 24–38 weeks) and birth weight of 735 g (range, 500–2975 g). PICCs were inserted at a median age of 4 days (range, 3–11 days). The median time from catheter insertion to the development of PLE was 16 days (range, 7–75 days). In all cases, the catheter tips were centrally located at the time of insertion but migrated to the subclavian veins or tributaries at the time of the events.
Conclusion: PICC-related PLE can be associated with the migration of PICC tips to noncentral locations, despite optimal positioning of the tip at the time of insertion. Attention should be paid to migration of catheter tips on subsequent x-ray films. For PICCs inserted via upper limb or scalp, serial follow-up x-rays, beginning 1 week after insertion, may be helpful to detect migration of catheter tips and identify patients at risk.

Reference:


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