Peripherally inserted central catheters complicated by vascular erosion in neonates

Abstract:

Peripherally inserted central catheters (PICCs) are widely used in the pediatric population, and their use continues to grow in popularity. These catheters provide a reliable source of venous access to neonatal patients but can also be the cause of life-threatening complications. There are several well-documented complications such as infections, catheter thrombosis, vascular extravasations, and fractured catheters. However, the complication of vascular erosion into the pleural space using both small and silicone-based catheters is rarely described. After obtaining institutional review board approval, we identified 4 cases to review of PICCs complicated by vascular erosions in the past 2 years. Herein, we also review the

Reference:

current literature of PICC complications. Getting the catheter tip as close to the atrial-caval junction as possible and confirmation of this placement are of the utmost importance. The thick wall of the vena cava near the atrium seems to be less likely to perforate; in addition, this position provides increased volume and turbulence to help dilute the hyperosmolar fluid, which seems to also be a factor in this complication. A daily screening chest x-ray in patients with upper extremity PICCs and ongoing parenteral nutrition (PN) are not necessary at this time given the overall low rate of vascular erosion and concerns regarding excessive radiation exposure in pediatric populations. However, a low threshold for chest x-ray imaging in patients with even mild respiratory symptoms in the setting of upper extremity PN is recommended.

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