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Continuing Medical Education (CME) Questions

Peripherally inserted catheters causing thrombosis

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Jaffray J, Witmer C, O'Brien SH, Diaz R, Ji L, Krava E, Young G. Peripherally inserted central catheters lead to a high risk of venous thromboembolism in children. *Blood*. 2020;135(3):220-226.

1. Your patient is a 7-year-old boy with leukemia in whom a central venous catheter (CVC) is being considered for chemotherapy. According to the multicenter prospective observational cohort study by Jaffray and colleagues, which of the following statements about venous thromboembolism (VTE) incidence in children with newly placed peripherally inserted central catheters (PICCs) vs tunneled lines (TLs) is correct?

- ☐ The overall incidence of catheter-related VTE was 3%
- ☐ Risk for catheter-related VTE was twice as high in children with PICCs as in children with TLs
- ☐ Median time from CVC insertion to VTE diagnosis among all CVC types was 15.5 days (range, 1-162)
- ☐ Among the cases of VTE, one quarter had completely occluded vessels

2. According to the multicenter prospective observational cohort study by Jaffray and colleagues, which of the following statements about risk factors for CVC-related VTE, central line–associated bloodstream infection (CLABSI), and catheter malfunctions in children with newly placed CVCs is correct?

- ☐ Risk factors for VTE were a history of thrombosis, leukemia, or a multilumen CVC
- ☐ Rate of CLABSIs was not significantly different among children with PICCs vs TLs
- ☐ Rate of CVC malfunction was 50% higher in children with PICCs than in children with TLs
- ☐ Risk for CVC-related VTE was significantly increased with increasing number of insertion attempts

3. According to the multicenter prospective observational cohort study by Jaffray and colleagues, which of the following statements about the clinical implications of VTE incidence in children with newly placed PICCs or TLs is correct?

- ☐ Recent increases in VTE incidence in children are primarily driven by more effective and intense treatments
- ☐ The findings suggest caution and careful consideration before placing a CVC, especially a PICC, because of associated serious complications
- ☐ VTEs in children are easily treated and not associated with substantially increased costs or poor outcomes
- ☐ Children with PICCs should receive pharmacological prophylaxis to prevent VTE

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