

To identify the frequency of and risk factors associated with complications necessitating removal of the peripherally inserted central catheters (PICCs) in patients receiving outpatient parenteral antibiotic therapy...” Kovacich et al (2016).

Abstract:

OBJECTIVE: To identify the frequency of and risk factors associated with complications necessitating removal of the peripherally inserted central catheters (PICCs) in patients receiving outpatient parenteral antibiotic therapy (OPAT) and to determine the appropriateness of OPAT in children with OPAT-related complications.

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METHODS A retrospective cohort of children who had a PICC inserted at the Johns Hopkins Children’s Center between January 1, 2003, and December 31, 2013, and were discharged from the hospital on OPAT was assembled.

RESULTS: A total of 1,465 PICCs were used to provide antibiotic therapy for 955 children after hospital discharge. Among these, 117 PICCs (8%) required removal due to a complication (4.6 of 1,000 catheter days). Children discharged to a long-term care facility were at increased risk of adverse PICC events (incidence risk ratio , 3.32; 95% confidence interval , 1.79-6.17). For children receiving OPAT, age of the child (adjusted IRR , 0.95; 95% CI, 0.92-0.98), noncentral PICC tip location (aIRR, 2.82; 95% CI, 1.66-4.82), and public insurance (aIRR, 1.63; 95% CI, 1.10-2.40) were associated with adverse PICC events. In addition, 34 patients (32%) with adverse events may not have required intravenous antibiotics at the time of hospital discharge.

CONCLUSIONS: Of children discharged with PICCs on OPAT during the study period, 8% developed a complication necessitating PICC removal. Children discharged to a long-term care facility had an increased rate of complication compared with children who were discharged home. With improved education regarding appropriate duration of antibiotic

therapy and situations in which early conversion to enteral therapy should be considered, PICC-related complications may have been avoided in 32% of children.

Reference:

Kovacich, A., Tamma, P.D., Advani, S., Popoola, V.O., Colantuoni, E., Gosey, L. and Milstone, A.M. (2016) Peripherally Inserted Central Venous Catheter Complications in Children Receiving Outpatient Parenteral Antibiotic Therapy (OPAT). *Infection Control and Hospital Epidemiology*. January 12th. .

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