BARD

PICC / Midline Post Insertion Troubleshooting Guide

Problem	Phlebitis	Suspected Catheter infection	Damaged Catheter
Common Causes	▪ Early stage mechanical phlebitis (ESMP) most often occur within 2-10 days post insertion ▪ Left sided or Cephalic Vein or difficult insertion ▪ Large gauge catheter or stiff material ▪ More often women ▪ Strenuous exercise ▪ Chemical phlebitis is related to infusate	▪ Skin contamination at the insertion site ▪ Contamination of the catheter hub/fluids ▪ Endogenous spread from a distant infected site ▪ Failure to use aseptic technique ▪ Immunosuppressed state	▪ Improper catheter securement ▪ Use of high pressure injectors ▪ Use of small syringes to flush (< 10 cc syringe barrel) ▪ Accidental damage from needless or sharps
Signs and Symptoms	▪ Tenderness or pain or erythema along the vein ▪ Heat ▪ Swelling ▪ Palpable venous cord ▪ Bacterial Phlebitis and purulent drainage from site and/or elevated temperature	▪ Fever / chills / shaking rigors ▪ Erythema and or tachypnea ▪ Purulent drainage or swelling at site ▪ Diaphoresis and/or confusion ▪ Elevated leukocyte count ▪ Hypotension / shock in severe cases ▪ Abdominal pain / nausea / vomiting	▪ Leakage at external catheter segment ▪ Broken hub ▪ Broken bifurcation
Prevention	▪ Maintain a dry and occlusive dressing ▪ Reduce strenuous exercise of extremity ▪ Reduce frequent bending of elbow ▪ Gentle, gradual catheter insertion ▪ Good sterile technique	▪ Strict aseptic technique for insertion, dressing change, and any manipulation ▪ Sterile dressing kept dry and occlusive ▪ Clean injection ports with alcohol ▪ Replace injection caps after blood draw	▪ For flush no smaller 10 cc syringe barrel ▪ No blood pressures VAD arm ▪ Do not use pressure injectors via VAD

Nursing Intervention	▪ Identify if phlebitis is mechanical or chemically related
	▪ For mechanical apply heat, elevate extremity and rest
	▪ Mechanical should respond within 24-72 hours and subside in 3 days
	▪ For chemical phlebitis related to infusate immediately remove the line and notify the physician
	▪ For bacterial phlebitis immediately notify the physician
		▪ Notify physician of elevated patient temperature, purulent drainage, swelling redness at insertion site or other signs and symptoms
		▪ Blood cultures peripherally and through the catheter as ordered
		▪ When obtaining device specimen:
		  ▪ Cultures should be obtained via each lumen of VAD
		  ▪ Initial few cc's of blood obtained via VAD should not be discarded but sent for microbiologic analysis
		▪ In adults obtain at least 20 ml, ideally 30 ml per drawing - each specimen containing 10-15 ml. Inoculated into aerobic media significantly improves the yield and reliability results
			▪ Repair hub if Groshong®
			▪ Temporary repair of hub if Per-Q-Cath®
			▪ Replacement of VAD with physicians order

Possible Physician Intervention	▪ Cultures if bacterial phlebitis is suspected ▪ Remove catheter if chemical or bacterial phlebitis is suspected	▪ Quantitative blood culturing technique has been developed as an alternative for diagnosis of CR-BSI in patients where catheter removal is undesirable because of limited venous access ▪ Quantitative cultures of paired blood samples, one obtained via the VAD and the other from a peripheral venipuncture ▪ Colony count from the blood obtained from the catheter that is 5 to 10 fold greater than the count from the blood of a peripheral vein has been predictive of CR-BSI and the VAD is removed and cultured	▪ Replacement of vascular access device

PInsert 1/100

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