Neonatal PICCs: Troubleshooting From Your Pillow?

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The speaker has disclosed that she is a clinical education consultant for Argon Medical Devices, which could be perceived as having a bearing on her presentation of this subject. She has no significant financial interest or relationship with any other companies or the manufacturer(s) of any commercial product and/or service that will be discussed as part of this presentation.

Session Summary

Neonatal PICCs can be accompanied by a number of major potential complications. It may seem that just as you reach your pillow, the parade of on-call problems begins. During this session the speaker will present the symptoms of common PICC concerns and management strategies, with a focus on timeliness of intervention.

Session Objectives

Upon completion of this presentation, the participant will be able to:

- identify common PICC-related complications;
- identify risk factors, symptoms and management for PICC-related complications;
- identify at least two preventive strategies to minimize complications.

References


**Session Outline**

See presentation handout on the following pages.
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First call

• “Baby X had a PICC placed in the cephalic vein yesterday and now his arm looks red”
• Other symptoms?
  – Warm to touch
  – Palpable Cord
  – Edema
  – Drainage
• The NNP suspects: __________________________

Disclosures

• Clinical Education Consultant for Argon Medical Devices
• Acknowledgements for Images Permissions
  – Argon Medical Devices

• Risk factors:
  – Cephalic vein
  – Saphenous vein
  – Manipulation
  – Inadequate securement
• Management:
  – Elevation of extremity
  – Warm compresses every 4 hours
  – Expect self-resolution in 24-72 hours

Second call

• “Baby C has had a PICC in place for a week and now the pump is alarming”
• Other symptoms?
  – Able to obtain blood return
  – Able to flush
  – Visible particulate matter or clots
  – Incompatible medications
• The NNP suspects: __________________________

• Risk factors:
  – Low infusion rates
  – Failure to flush before and after medications
  – Calcium-phosphate imbalance in TPN
  – Lipid accumulation
• Management:
  – Assess dressing for positional kinks
  – Evaluate catheter tip position
  – Instill a clearing agent
Clearing agents for occlusions

- Thrombotic
  - Tissue Plasminogen Activase
- Acidic drugs and TPN imbalance
  - Hydrochloric acid
- Alkaline drugs
  - Sodium bicarbonate
- Lipids
  - Ethanol

Third call

- “Baby Q had a PICC placed yesterday and now there is more catheter exposed than earlier”
- Other symptoms?
  - Edema, erythema of shoulder, neck, arm, back
  - Change in function of catheter
  - Pain or discomfort on palpation
- The NNP suspects: _______________

Fourth call

- “Baby Z has a PICC placed earlier today and is now having increased ventilatory support needs and looks mottled”.
- Other symptoms?
  - Tachycardia, bradycardia
  - Hypotensive, narrow pulse pressure
  - Muffled heart tones
  - Sudden respiratory compromise
- The NNP suspects: _______________

Fifth call

- “Baby M had a morning chest Xray that shows that the PICC is now up the neck”
- Other symptoms?
  - Edema, erythema
  - Change in functionality of catheter
- The NNP suspects: _______________
Sixth call

- “Baby D had a PICC placed in the lower extremity 10 days ago and is less active, having temperature instability and increased bradycardias”
- Other symptoms?
  - Apnea
  - Feeding intolerance
  - Increased respiratory support needs
- The NNP suspects: ____________________

Seventh call

- “Baby W has a PICC in place for 9 days and is ready for it to be removed but it won’t come out”.
- Other symptoms?
  - Edema
  - Erythema
- The NNP suspects: ____________________

Risk factors:
- High frequency ventilation
- Forceful flushing
- Supine position
Management:
- Repositioning catheter through gravity and flushing technique
- Withdrawing catheter losing central placement

Risk factors:
- Prematurity
- Catheter in situ extended dwell time
- Multiple manipulations of catheter
- Multiple line entries
Management:
- Septic workup
- Blood culture
- Antibiotics via catheter
- CSF culture

Risk factors:
- Extended dwell time
- Vasospasm
- Clotting disorders
Management:
- Warmth along the vessel track
- Maintain sterile dressing
- Monitor and re-attempt removal
- Do not apply tension

Thank you!

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