It’s Not Just About Insertion But Also Removal!
Financial Disclosures

Please include the following information:

1. Disclosure of Relevant Financial Relationships

I have no financial relationships to disclose.

2. Disclosure of Off-Label and/or investigative Uses

I will not discuss off label use and/or investigational use in my presentation.
Objectives

• To be able to name at least three important considerations to review when request for line removal is made.

• List two ways that patients react to removal of their lines.

• Present three alternative treatments to line removal.
My Role in the Medical Center
The Ins and Outs of Vascular Access
Look at the Bigger Picture
Future Needs for Access
Considerations

• If done with treatment no reason to keep access.
• What is the reason for removal?
• If ongoing needs once line is removed what access is available and what line selection will be able to meet those needs?
TEAM APPROACH
• Primary care team
• Infectious Disease team if issue is infection
• Vascular Access team for access considerations
• Case management team regarding coverage
• Patient and their willingness and ability to care for access
Patient’s Response to Line Removal
When No Longer Needing Access

• For oncology patients, there is often a psychological component to device removal.
• For some patients it is a sign of victory but for others it is seen as a jinx and they are afraid to have it removed.
Line Removal Requests Based on Clinical Function Issues
• Imaging will give a clear picture of line placement.
• If migrated is the line able to be repositioned?
• Is catheter still attached to port?
• If position is correct is fibrin tail or sheath present?
• Is there a clot present?
Can Line Be Repositioned?
Pinch Off Syndrome
Warning: Not for diagnostic use
Separation of Device
Fibrin Tail and Sheath
• Alteplase will often times take care of the problem.
• If medical center pharmacy can mix 1mg in flushing volume and dwell for a long period of time.
• Similar to Drano.
• Catheter stripping if unsuccessful.
Prevention

• Increase flush frequency.
• Prevention with periodic instillation of alteplase.
Clot!!!
• If clot is present, it is safe to infuse since it is around the catheter and not at the tip where fluid is infusing.

• Often resolved with treatment such as Lovenox over a three month period of time.

• If removed may be unable to replace.
Infection
Types of infection

- Cellulitis
- Pocket
- Tunnel
- Bacteremia
Cellulitis
• Distinguish between infection versus skin reaction to dressing materials or drug.
• May consider a dermatology consult.
• Often can be resolved with oral antibiotics.
• Helpful to outline area with skin marker for objective monitoring.
• Instruct patient to call if symptoms worsen.
• Have patient return to verify improvement.
• Presently ointment is often used with HD lines.
• Patient case where Mupirocin topical ointment used in prevention and resolution of problem.
Pocket Infection
• Pocket will feel like fluid when palpated. An ultrasound can confirm fluid collection.
• Area warm to touch with erythema present.
• When de-accessing port there may be purulent drainage present.
• Port should be removed as soon as possible.
• Removal can be done with just local anesthetic if urgent.
• Device should be sent for culture.
• Consult wound and skin team for post care. Pocket should not be closed to allow healing from inner to outer.
Tunnel Infection
• Treat similarly to pocket infection.
• Can be removed without sedation.
• Send catheter tip for culture.
• Goal is to remove device and prevent infection from entering the blood stream and causing patient to develop a bacteremia.
Bacteremia
• If access still needed, assess patients vascular access for future lines.
• Dependent on type of bacteria line salvage may or not be possible.
• A yeast or fungal infection requires removal of device.
Line Salvage
• Systemic antibiotics through line and if multi-lumen alternate through both.
• Antibiotic lock therapy during duration of systemic treatment. Instill daily and PRN so line is constantly bathed.
• Locks should be mixed with anticoagulant so that fibrin does not develop.
• Aspirate post dwell and follow with NS prior to infusions. (of note if unable to aspirate still safe)

• Ethanol locks for non urethane material catheters. Dwell times vary.

• I prefer a two hour dwell daily for TPN patients when TPN comes down.
Once Removed Now What?
• Ideally provide a line holiday.
• Exchange is not usually advised since wire would be threaded through source.
• If possible, delay insertion of a more invasive line until chance of reoccurrence is gone.
• PICC placement and plan two weeks post antibiotics with clear blood cultures.
• If unable to place a PICC, consider a tunneled line.
• If possible, use a non-power line so ethanol locks may be used if desired.
• If clinically able alternate site of insertion.
• An MRV prior to procedure for patients with difficult access history may be helpful to establish best plan.
• Remember the patient is key factor in life of line.
• Periodically review patients’ ability to care for access.
The Right Patient for the Right Vascular Access Plan!

- Removal
- Line Salvage
- Repositioning
- Anticoagulation
- Replacement
References:


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Thank You