Ethanol Locks as an Adjunct Treatment for Central Venous Line Infections

Central venous catheters (CVCs) are crucial for patients who require long term vascular access due to a variety of underlying diseases. While these catheters have many benefits, they are also associated with complications such as catheter-related bloodstream infections (CRBSI). These infections can be a major cause of morbidity, mortality, and increased health care costs. Central line infections are traditionally treated with systemic antimicrobial therapy. There are times when the catheter must be removed to adequately treat the infection. For those with a history of multiple line infections, there are limited sites available to place new vascular access when the CVC needs to be replaced. Reducing the number of infections is highly desirable.

Lock therapy is the procedure of allowing medications to dwell in the line for extended periods of time without interruption. Many different agents such as Ethanol, Vancomycin and Gentamicin have been used successfully as a means to salvage a CVC that has become infected.

The Ethanol Lock technique introduced around 2004, is a method for sterilizing the lumen of the catheter by instilling an ethanol solution and allowing it to dwell in the catheter for a certain amount of time. Studies on ethanol lock technique differ in ethanol concentrations, luminal dwell times and catheter types, inclusion of anticoagulants, use of systemic antibiotics, and use of the technique for prevention or for treatment of CRBSI

The Ethanol Lock technique can be safely used in home care patients. Here is what you need to know:

• The minimal length of time that ethanol is locked in the line is 3 hours
• The procedure may be done daily, weekly or monthly as ordered
• Minor adverse reactions such as flushing, dizziness, nausea or headaches may occur
• Ethanol is incompatible with Heparin
• It is safe to flush the Ethanol through the line with saline, but it is recommended to withdraw the lock from the line
• Ethanol may not be used in non-silicone central lines, ie. Bard PICCs

You can learn more by going to Mosby or PSAs Clinical Procedure Manual and viewing “Intravenous Therapy: Ethanol 70% Lock”.

References:
2. Instillation and Removal of Ethanol VAD Locks. University of Michigan Hospitals and  
4. Michael, M. Ethanol Lock Procedure. Coram Infusion Therapy as developed by Baptist Medical Center Infusion Pharmacy. Jacksonville, Fla. 1/09.

