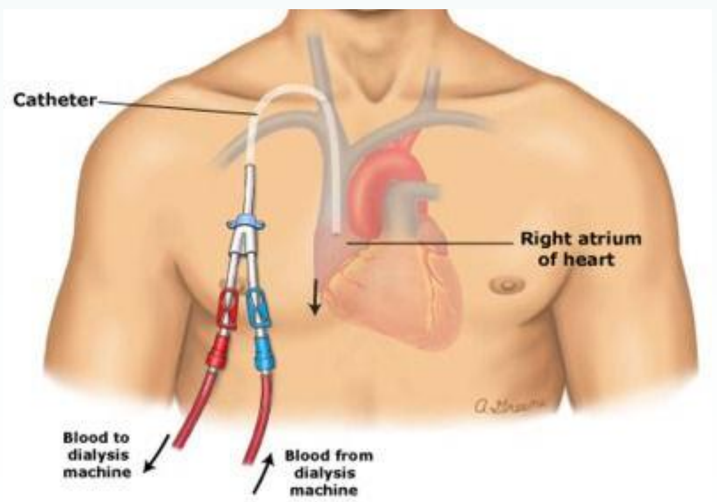
Dysfunctional Dialysis Catheters, Causative Organisms and the Occurrence of Central Line Associated Blood Stream Infections

Shirley R. Torrance, RN, CRNI & Deborah Hess, MSN, RN-BC
UPMC Hamot

Introduction

- Preventing health care associated infections (HAI) is an organizational and CDC priority.
- CLABSI is one of the most common HAI in the United States accounting for 10-20% of all HAI and resulting in a12-25% mortality rate (cdc.gov/hai/bsi; Weiner et al, 2016).
- Various factors increase the risk of CLABSIs including improper catheter insertion and maintenance practices, prolonged indwelling duration, and patient characteristics such as advanced age and presence of chronic disease state(s) (Gahlot, Nigam, Kumar, Yadav, & Anupurba, 2014).
- Micro-organisms found on the patient's skin may migrate down the catheter and enter the bloodstream. Nasal colonization of staphylococcus aureus also increases the risk of infection.
- Dialysis patients are the main users of long-term central venous catheters (CVCs) and are at highest risk for CLABSI (Mariano & Castro-Sanchez, 2017).
- Low flow rates during dialysis treatments have been implicated as increasing risk of CLABSI (Sahli, Feidjel, & Laalaoui, 2017).
- Little research is available on CLABSI in the hemodialysis patient population.



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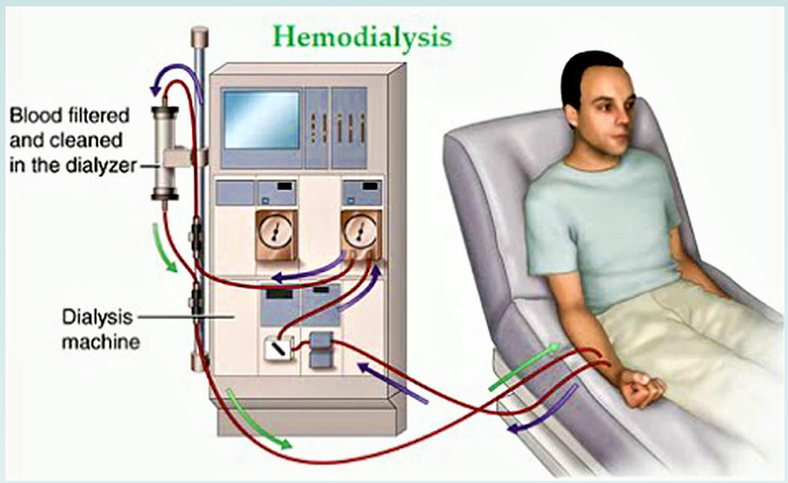
Purpose

Is there an association between level of blood flow during hemodialysis treatments and CLABSI events?

A secondary aim is to determine if the CLABSIs are due to a common causative organism.



Methods

- A retrospective correlational study will begin after Institutional Review Board (IRB) approval.
- Data will be collected from UPMC Hamot Cerner and Health Information Management System.
- The retrospective chart review will extend from January 2012 through December 2019.
- Data will be entered into Microsoft Excel with the primary data point being level of blood flow during dialysis treatments in patients who developed CLABSIs. The causative micro-organism will also be recorded.
- A statistical analysis will be run on the data to determine if there is a correlation between level of blood flow during dialysis treatments and the occurrence of CLABSI and to Identify if there is a common causative micro-organism.

Data Collection Tool

Dysfunctional Dialysis Catheters, Causative Organisms and the Occurrence of CLABSIs
Data Collection Tool

Coded Subject	Age	Gender	Flow	Organism	Colonization	Catheter type	Comments

Next Steps

The research proposal will be submitted to the Institutional Review Board once feedback from statistician is obtained.

After approval to proceed is received, chart reviews will begin.

After all the data is collected and analyzed, the results, conclusion, and implications will be formulated and disseminated.

References

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