Eliminating Central Line-Associated Bloodstream Infections (CLABIs)
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Definition

A “central line” or “central catheter” is a tube that is placed into a patient’s large vein, usually in the neck, chest, arm or groin.

Typically the catheter is used for medications, fluids, nutritional support, hemodynamic monitoring, and used to draw blood. A patient may need the central line for several days or weeks.
What are the Risks

- Central Venous Catheters (CVC) are connected to serious infections more often than with short peripheral catheters.
- Patients that require CVC typically are more vulnerable to infections due to risk factors, such as co-morbidities, age and suppressed immunity.
Statistics

- Every year in the United States, more than 200,000 people are affected by CLBSI.
- An estimated cost of managing each episode of infection is $6,000 to $40,000.
- Mortality risks can be as high as 35%.
Goals

- Reducing the incidences of CVC-related infections is one of the six major targets in the 100,000 Lives Campaign.
- Their focus is to give patients the best care possible by employing evidence based practices.
- This will dramatically reduce avoidable patient complications and deaths.
Evidence Based

“Practitioners have found that implementing a sequence of linked interventions, also called a bundle, is efficient and effective mechanism to transform the healthcare practices.”
CLABSI Bundle

- Hand Hygiene
- Maximal sterile barriers
- Clorhexidine for skin asepsis
- Avoid femoral lines
- Avoid/remove unnecessary lines
Hand Hygiene

“Insufficient or ineffective hand hygiene contributes significantly to a greater bacterial burden and subsequent spread of microorganism within the care environment.”
Maximal Sterile Barriers (MSB)

- MSB’s have also been shown to reduce CLA-BSI’s by improving sterile technique during catheter insertion.
- Anyone inserting a catheter must perform MSB’s which includes wearing a head cap, face mask, sterile body gown and sterile gloves.
- Assisting personnel should practice universal precautions.(hand hygiene, gloves, mask, and maintaining sterile field)
MSB’s cont.

• Patients should be covered head to toe with a large sterile drape, only small opening at insertion site.
• Patients must wear a mask if the catheter insertion site is jugular or subclavian.
Chlorhexidine (CHG) for Skin Asepsis

- Recent meta-analysis of studies comparing CHG with providone-iodine for routine insertion site care showed that CHG was superior for preventing CR-BSI and didn’t cause reverse reactions at the puncture site.
Avoid Femoral Lines

- Femoral sites are associated with greater risk of deep vein thrombosis and presumed to have a greater infection risk due to high colonization rates in adults.
- Subclavian site is preferred based on available evidence that this site is associated with less risk of infection and thrombotic complications.
Removal of Lines

- The decision to place a CVC must be well thought out by the healthcare team because of the risks.
- Once placed, periodical assessments should be performed to monitor the need of use.
- Removal of catheter as soon as possible to reduce the risk of infection.
Additional Components to Reduce CLA-BSI

- The CDC Guidelines recommend routine changing of transparent dressing every 7 days and gauze every 2 days and whenever are soiled or non-adherent.
- Multiple studies have linked staff education to best practice for central line insertion and a decrease incidence of CLA-BSI’s
More Strategies cont.

- Having all necessary equipment available in a specified cart.
- Central Line Insertion Checklist used for pre-procedural tool and help ensure compliance with EB guidelines.
- The most important yet most challenging component to the success of infection reduction is empowering nurses to terminate the CL insertion procedure if guidelines are not followed.

AACN, NSG2006
Nurses Involvement

- In conclusion, translating scientific evidence into practice is perhaps the most important aspect of infection control.
- Nurses understanding of the latest evidence will play an important role in reducing central line infections.
- Nurses advocacy and involvement will also improve CVC patients’ outcome.
References