Promoting evidence – based practice in preventing MRSA bacteremia in patients having central venous catheter undergoing hemodialysis

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Methicillin-resistant Staphylococcus aureus (MRSA)

- Catheter-related bloodstream infection (CR-BSI)
- Hospitalization
- Increased morbidity
- Increased mortality
- Financial burden to health care system
Objective

- To evaluate the effectiveness of implementing evidence-based practice in preventing MRSA bacteremia in patients with central venous catheter (CVC) undergoing hemodialysis
Methodology

From January 2012 to December 2012

- Bundled strategies were implemented to patients with end stage renal disease (ESRD) having Central Venous Catheter for hemodialysis
Establish infection control team by multi-disciplinary approach

Education for Healthcare personnel

Patient education
Strategies for catheter insertion

Preparation

Materials:
- A CVC cart containing all essential items

Room environment

Patient:
- 2% Chlorhexidine wash for skin cleansing
Maximal sterile barrier precautions
Remove not in use catheters immediately

Skin disinfection:
Use 2% chlorhexidine in 70% alcohol
Allow to dry

Prophylaxis:
Apply Povidone iodine antiseptic ointment
Strategies

Hand hygiene for staff & patient

Proper grooming & appearance

Mask wearing
Strategies for environment

- Environmental cleansing
- Removal of unnecessary items in clinical area
- Designated area & equipment for infectious cases
- Signage posting
Strategies

- Revised existing guidelines for HD procedure
- Routine screening and decolonization therapy for Staphylococcus aureus
- Assessment on staff’s compliance to guidelines
- Feedback of the clinical outcome to the staff
Results
From Jan 2012 to Dec 2012

160 patients having CVC for HD
(13803 catheter days, 5980 HD sessions)

Implemented bundle strategies

7 patients had MRSA bacteremia

Reduced from 1.08 episodes to 0.5 episodes per 1000 catheter days
Results

Reduced by 46% comparing with 2011

No case for 4 consecutive months
Conclusions

- Bundled strategies have reduced the rate of CR-BSI
- To sustain the desirable outcome requires continuous effort
- Ongoing surveillance program needs to be implemented to detect and prevent the spread of MRSA bacteremia
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Thank You!