Cessation of Contact Isolation for Endemic MRSA and VRE is Not Associated with Increased Infections

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ABSTRACT

Background: Contact isolation precautions are recommended to prevent the transmission of multidrug-resistant MRSA and vancomycin-resistant enterococcus (VRE). However, when infection prevention measures such as hand hygiene, environmental cleaning, and chlorhexidine (CHG) patient bathing are in place, it is unclear whether routine use of contact isolation precautions is needed.

Methods: Acquisition or infection due to MRSA or VRE were monitored via two methods: 1) CDC NHSN reporting of MRSA and VRE bacteremia with designation as hospital onset or community onset; 2) Characterization of routine clinical cultures by an experienced infection preventionist (IP). In January 2015, routine contact isolation precautions for endemic MRSA and VRE were suspended. The hospital-wide monthly rates of MRSA and VRE acquisition and infection from 2014-2015 were analyzed by Poisson regression to determine whether the change in practice was associated with a change in infection rates. Results: There was no significant difference in the rate of acquisition or infection due to MRSA or VRE when comparing rates in the 12 months before and after the cessation of routine contact isolation precautions. Table 1 catalogs the rates of acquisition and infection due to MRSA and VRE for 2014 and 2015. High rates of hand hygiene (2014: 93.5% compliance, 2015: 91.4% compliance) and environmental cleaning (2014: 93.8% of 22,805 surfaces cleaned, 2015: 96.3% of 27,411 surfaces cleaned) were documented. The method of CHG bathing and monitoring program were changed during the observation period precluding comparison.

Conclusion: When hand hygiene, environmental cleaning, and CHG bathing are adequately maintained, routine contact isolation for endemic MRSA and VRE is unnecessary.

RESULTS

- In January 2015, CI for patients infected or colonized with MRSA/VRE was discontinued. The change in policy was communicated broadly to all providers via electronic and print modalities and verbal reports at clinical unit and leadership meetings.
- Compliance with standard isolation measures was emphasized and it was noted that gowns/gloves should be utilized in the care of patients with uncontained secretions and whenever contact with blood and body fluids was anticipated.
- CI was continued for multi-drug resistant gram-negative bacilli and enteric pathogens (C difficile, norovirus, etc).
- Horizontal infection control measures were in place and compliance was monitored throughout 2014 and 2015 including hand hygiene, environmental cleaning, and chlorhexidine patient bathing.
- Acquisition and infection due to MRSA/VRE was monitored via 2 methods:
  - CDC NHSN reporting of MRSA bacteremia (Lab ID event) with designation of hospital or community onset (identical criteria used for VRE).
  - Characterization of routine clinical cultures by an experienced IP as present on admission, confirmed or possible/probable hospital acquired.
- Hospital monthly rates of MRSA and VRE acquisition and infection from 2014 and 2015 were analyzed by Poisson regression.

- There was no significant difference in the rate of acquisition or infection due to MRSA or VRE when comparing rates in the 12 months before and after the cessation of routine CI. Table 1 catalogs the rates and model estimates.

- Other variables that were measured:
  - Hand Hygiene: 2014: 93.5% compliance (17,078 opportunities); 2015: 91.4% compliance (13,732 opportunities)
  - Environmental Cleaning: 2014: 93.8% (22,805 surfaces); 2015: 96.3% (27,411 surfaces)
  - CHG Patient Bathing: The method of CHG bathing and monitoring were changed during the observation period thus precluding meaningful comparison.

CONCLUSION & FUTURE DIRECTION

- When hand hygiene, environmental cleaning/disinfection, and CHG bathing are adequately maintained, routine CI for endemic MRSA and VRE appears to be unnecessary.
- Use of CI should be customized per institutional and individual patient requirements.
- Additional research should be conducted to ascertain the most cost efficient means to control the acquisition and transmission of multidrug-resistant pathogens including MRSA and VRE.

REFERENCES