

EV0699

ePoster Viewing

Infection control issues

Chlorhexidine and octenidine bathing for methicillin-resistant *Staphylococcus aureus* does not lead to development of resistance

B. Ang¹, T. See¹, B.F. Poh¹, P.Y. Hon¹, J.Q. Kum¹, T.P. Lim¹, P. Krishnan¹, A. Chow¹

¹Tan Tock Seng Hospital, Singapore, Singapore

Background

Methicillin Resistant *Staphylococcus aureus* (MRSA) is highly prevalent in hospitals worldwide, including Singapore. In Tan Tock Seng Hospital, a 1500 bed hospital with acute admissions and long stay wards, strategies to contain MRSA include active surveillance and cohorting.

Universal bathing with antiseptics such as chlorhexidine have been shown to reduce MRSA infection, mainly in intensive care units. There is less evidence of its efficacy in long-stay general wards and concerns have been raised about the potential for development of resistance to antiseptics.

Objective

The objective of this study was to compare chlorhexidine and octenidine efficacy, tolerability and investigate for development of resistance.

Methods

Patients are screened for MRSA on admission and discharge from these wards with swabs from the nares, axilla and groin. Patients screened positive are cohorted in separate wards with use of Contact Precautions. Patients who are negative on admission but have positive swabs at exit are considered "acquisitions".

In an attempt to reduce MRSA acquisition, we initiated routine antiseptic baths for patients in 2 long stay wards starting from August 2013. Patients were bathed with antiseptic instead of their usual soap. One ward used chlorhexidine while the other ward used octenidine.

Feedback on adverse reactions in either patients or staff was obtained from nursing staff. This study was approved by institution review board and consent obtained from the patients or guardians.

Isolates taken from patients who acquired MRSA (positive on exit screen) were tested in triplicate for Minimum Inhibitory Concentrations (MIC) to both disinfectants by the broth microdilution method at the start of the study, and at the end of 6 months.

Results

Over 6 months, there were 71 patients in Ward A who had chlorhexidine baths, and 65 in ward B who had octenidine baths. There were no reports of adverse reactions to either product from either patients or staff. There was no difference in acquisition rates between the two wards.

At beginning and at 6 months, there were 18 isolates tested from Ward A and 26 from Ward B.

All isolates had MIC's that were in the susceptible range (<4 ug/ml) to both chlorhexidine and octenidine at the beginning and at the end of the study.

In the post-bathing period, in chlorhexidine group, there was an increase in proportion of isolates with MIC 1-2, from 37.2% to 52.4% (p=0.1620) although it did not reach statistical significance. There was no change in the octenidine group.

Conclusions

Use of Chlorhexidine and Octenidine for Methicillin Resistant *Staphylococcus aureus* decolonization was well tolerated and did not lead to development of resistance although the slight creep in MIC is of concern.