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Effectiveness of Disinfectant Wipes for Decontamination of Bacteria on Patients' Environmental and Medical Equipment Surfaces at Siriraj Hospital

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Abstract

Objective: To determine the effectiveness of VirusolveR+ disinfectant wipes and PALR disinfectant wipes for decontamination of inoculated bacteria on patients' environmental and medical equipment surfaces at Siriraj Hospital.

Material and Method: Tryptic soy broths containing MRSA and XDR A. baumannii were painted onto the surfaces of patient's stainless steel bed rail, patient's fiber footboard, control panel of infusion pump machine and control panel of respirator. The contaminated surfaces were cleaned by either tap water, tap water containing detergent, VirusolveR+ disinfectant wipes or PALR disinfectant wipes. The surfaces without any cleaning procedures served as the control surface. The contaminated surfaces cleaned with the aforementioned procedures and control surfaces were swabbed with cotton swabs. The swabs were streaked on agar plates to determine the presence of MRSA and XDR A. baumannii.

Results: MRSA and XDR A. baumannii were recovered from all control surfaces. All surfaces cleaned with tap water or tap water containing detergent revealed presence of both MRSA and XDR A. baumannii. However, the amounts of bacteria on the surfaces cleaned with tap water containing detergent were less than those cleaned with tap water alone. All surfaces cleaned with PALR disinfectant wipes also revealed presence of both MRSA and XDR A. baumannii. However, the amounts of bacteria on the surfaces cleaned with PALR disinfectant wipes were less than those cleaned with tap water containing detergent. No bacteria were recovered from all surfaces cleaned with VirusolveR+ disinfectant wipes.

Conclusion: VirusolveR+ disinfectant wipes were more effective than tap water, tap water containing detergent and PALR disinfectant wipes for decontamination of bacteria inoculated on patients' environmental and medical equipment surfaces at Siriraj Hospital.

Keywords: Disinfectant wipes, Hospital-acquired infection, Acinetobacter baumannii, Methicillin-resistant Staphylococcus aureus, MRSA

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