Journal Watch presents a brief description of articles recently published in other journals and thought to be of relevance or interest to the AIC readership. Readers are encouraged to refer to the full article for complete information.

Hand hygiene: improved standards and practice for hospital care

The author reviewed the most recently published literature on hand hygiene practices in healthcare settings. Recent findings included that adherence with recommendations for hand hygiene remains low, but key factors of non-compliance have been identified and corrective actions proposed. Current guidelines recommend the use of alcohol-based handrub formulations as the new standard of care, thus requiring a system change in most hospitals. In addition, healthcare worker education and motivation are obviously important to modify hand hygiene behaviour and must be part of multimodal strategies to enhance compliance in hospitals. Compliance improvement is associated with reduced infection rates and resistance spread. Hand rub application according to recommended practices is an alternative to conventional surgical hand scrubbing with antiseptic soap and water for surgical hand preparation.

The author concluded that system change must be addressed in most hospitals where alcohol-based hand rubbing has not become a standard of care. Strategies to improve hand hygiene compliance must be multimodal and should include staff education and motivation, the use of performance indicators and hospital management support. Successful campaigns will result in reduced infection rates, reduced spread of antimicrobial resistance and enhanced patient safety.


Use of perioperative mupirocin to prevent methicillin-resistant Staphylococcus aureus (MRSA) orthopaedic surgical site infections

The authors examined whether topical perioperative prophylaxis can reduce the incidence of methicillin-resistant Staphylococcus aureus (MRSA) surgical site infections (SSIs). Using a controlled before and after approach on patients from four orthopaedic wards, undergoing orthopaedic surgery involving insertion of metal prostheses and/or fixation, received perioperative prophylaxis with nasal mupirocin for five days, and a shower or bath with 2% (v/v) triclosan before surgery (PPNMT).


Effect of central venous catheter type on infections: a prospective clinical trial

This study reports on a block clinical trial of two types of central venous catheters (CVCs), antiseptic-impregnated catheters (AIC) and non-impregnated catheters (non-AIC), on catheter tip colonisation and bacteraemia. In total, 500 catheters were inserted in 390 patients over the 18 month study period, 260 (52.0%) AIC and 240 (48.0%) non-AIC. Of these, 460 (92.0%) tips (237 AIC and 223 non-AIC) were collected. While significantly fewer AIC, 14 (5.9%), than non-AIC, 30 (13.5%), catheters were colonised (p<0.01), there was no significant difference in the rates of bacteraemia in the two groups (0.8% vs. 2.7%, respectively, p=0.16). There were 6.87 (95% CI 3.38-14.26) and 16.92 (95% CI 10.61-27.12) colonised AIC and non-AIC catheters, respectively, per 1000 catheter days, a difference that was significant (p<0.01). However, no difference emerged between bacteraemias in AIC and non-AIC catheters per 1000 catheter days measured at 0.98 (95% CI 0.24-5.54) and 3.38 (95% CI 1.29-9.34), respectively (p=0.10). Of the 444 CVCs that were sited in the subclavian or jugular veins and had tips collected, significantly more catheters were colonised in the jugular group, 19 (20%), compared with the subclavian group, 24 (6.9%; p=0.01). Overall, the low rates of colonisation and of bacteraemia may be explained by the population studied, the policies used and the employment of a clinical nurse dedicated to CVC management.

After introduction of PPNMT there was a marked decrease in incidence of MRSA SSIs (per 1000 operations) from 23 in the 6 months beforehand (period A) to 3.3 (p<0.001) and 4 (p<0.001) in subsequent consecutive six-month periods (B and C, respectively). Of 11 MRSA SSI cases that occurred during periods Band C, only one had actually received PPNMT, and 10 occurred after acute, as opposed to elective, surgery (p<0.001). Point prevalence nasal MRSA carriage decreased from 38% before PPNMT to 23% immediately after, and 20%, 7%, 10% and 8% (p<0.001) at 6 monthly intervals post-intervention. Conversely, the prevalence of nasal MRSA carriage in a control elderly medicine ward did not change significantly. Vancomycin usage, in terms of defined daily doses, declined by 23%. Low-level mupirocin resistance was found. PPNMT can reduce the incidence of MRSA SSIs after orthopaedic surgery, probably by reducing nasal MRSA carriage in the endemic setting, without selecting for mupirocin resistance.


Impact of ring wearing on hand contamination and comparison of hand hygiene agents in a hospital

The authors determined risk factors for hand contamination and compared the efficacy of three randomly allocated hand hygiene agents in a group of surgical intensive care unit nurses. They cultured samples of one of the subjects’ hands before and samples of the other hand after hand hygiene was performed. Ring wearing was associated with 10-fold higher median skin organism counts; contamination with Staphylococcus aureus, gram-negative bacilli, or Candida species; and a stepwise increased risk of contamination with any transient organism as the number or rings worn increased (odds ratio [OR] for 1 ring worn, 2.6; OR for >1 ring worn, 4.6). Compared with use of plain soap and water, hand contamination with any transient organism was significantly less likely after use of an alcohol-based hand rub (OR, 0.3; 95% confidence interval [CI], 0.1-0.8) but not after use of a medicated hand wipe (OR, 0.9; 95% CI, 0.5-1.6). Thus, the authors concluded that ring wearing increased the frequency of hand contamination with potential nosocomial pathogens, and the use of an alcohol based hand rub resulted in significantly less frequent hand contamination.


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