Chlorhexidine shower for surgical site infection prevention



Surgical site infections (SSI) are common spine surgery complications. Prevention is critical to maintaining safe patient care and reducing additional costs associated with treatment.

To determine the efficacy of preoperative chlorhexidine (CHG) showers on SSI rates following fusion and nonfusion spine surgery Chan et al., implemented a shower protocol at UCSF Medical Center, Milwaukee in November 2013. A cohort comparison of 4266 consecutive patients assessed differences in SSI rates for the pre- and postimplementation periods. Subgroup analysis was performed on the type of spinal surgery (eg, fusion vs nonfusion). Data represent all spine surgeries performed between April 2012 and April 2016.

The overall mean SSI rate was 0.4%. There was no significant difference between the pre- (0.7%) and postimplementation periods (0.2%; P = .08). Subgroup analysis stratified by procedure type showed that the SSI rate for the nonfusion patients was significantly lower in the post- (0.1%) than the preimplementation group (0.7%; P = .02). There was no significant difference between SSI rates for the pre- (0.8%) and postimplementation groups (0.3%) for the fusion cohort (P = .21). In multivariate analysis, the implementation of preoperative CHG showers were associated with significantly decreased odds of SSI (odds ratio = 0.15, 95% confidence interval [0.03-0.55], P < .01).

This is the largest study investigating the efficacy of preoperative Chlorhexidine showers on SSI following spinal surgery. In adjusted multivariate analysis, Chlorhexidine showers was associated with a significant decrease in SSI following spinal surgery ¹⁾.

In 2013 a search of electronic databases was undertaken to identify prospective controlled trials evaluating whole-body preoperative bathing with chlorhexidine versus placebo or no bath for prevention of SSI. Summary risk ratios were calculated using a DerSimonian-Laird random effects model and a Mantel-Haenzel dichotomous effects model.

Sixteen trials met inclusion criteria with a total of 17,932 patients: 7,952 patients received a chlorhexidine bath, and 9,980 patients were allocated to various comparator groups. Overall, 6.8% of patients developed SSI in the chlorhexidine group compared with 7.2% of patients in the comparator groups. Chlorhexidine bathing did not significantly reduce overall incidence of SSI when compared with soap, placebo, or no shower or bath (relative risk, 0.90; 95% confidence interval: 0.77-1.05, P = .19).

Meta-analysis of available clinical trials suggests no appreciable benefit of preoperative whole-body chlorhexidine bathing for prevention of SSI. However, most studies omitted details of chlorhexidine application. Better designed trials with a specified duration and frequency of exposure to chlorhexidine are needed to determine whether preoperative whole-body chlorhexidine bathing reduces SSI ².

References

1)

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