INTRODUCTION

More than 25 million inpatient surgical procedures are reported in the US. In the period from 1990 to 2012, 18 million patients underwent surgery in the United States with a complication rate of 34% or more for surgical site infections (SSI). The average length of hospitalization for these patients was 3.5 days, and non-elective hospital charges were $34,344, yielding a charge of about 35% or more for surgical site infections.

Background: Background:

Antiseptic solutions, such as chlorhexidine, are commonly used for preoperative skin preparation. Chlorhexidine gluconate (CHG) is an antiseptic agent with broad-spectrum activity against aerobic and anaerobic bacteria. CHG is effective against many Gram-positive and Gram-negative bacteria, including methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE).

METHODS

The study was designed as a randomized, double-blind, placebo-controlled, parallel-group study. Subjects were randomized to receive either CHG or saline solution for preoperative skin preparation.

RESULTS

The study showed that CHG was more effective than saline solution for preoperative skin preparation. The number of surgical site infections was significantly lower in the CHG group compared to the saline group.

CONCLUSION

CHG is an effective agent for preoperative skin preparation and should be considered for use in surgical settings.
PROSPECTIVE EVALUATION OF 6 PREOPERATIVE CUTANEOUS ANTISEPTIC REGIMENS FOR PREVENTION OF SURGICAL SITE INFECTION

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ABSTRACT

Background: Minimizing the occurrence of surgical site infections (SSIs) has become a critical issue. Whole-body disinfection on the day of surgery is necessary to lower the risk of SSIs. We conducted a prospective trial to evaluate the effectiveness of six preoperative cutaneous antiseptic regimens when compared to a control regimen.

Methods: Thirty-six healthy patients were randomly assigned to one of six antiseptic regimens with 2% chlorhexidine gluconate (CHG) or 70% isopropyl alcohol (IPA) solution in a crossover study. The regimens were as follows: CHG 10 min, CHG 2 min, IPA 10 min, IPA 2 min, CHG 2 min.Span and CHG 10 min.

Results: The CHG 10 min regimen was associated with significantly lower SSI rates compared to the control regimen.

Discussion: The CHG 10 min regimen appears to be the most effective for reducing SSI rates.

Conclusion: CHG 10 min is a safe and effective regimen for reducing SSI rates.

INTRODUCTION

More than 2.5 million surgical procedures are performed annually in the United States, and approximately 2.5% of these result in surgical site infections (SSIs). Various antiseptic regimens have been used to reduce the incidence of SSIs, including chlorhexidine gluconate (CHG), povidone-iodine, alcohol, and soaps. This study aimed to evaluate the effectiveness of six preoperative cutaneous antiseptic regimens when compared to a control regimen.

METHODS

PURPOSE OF THE STUDY

The purpose of this study was to evaluate the antiseptic effectiveness of a full-body preoperative wash using a chlorine-containing soap versus the CHG spray in the prevention of surgical site infections (SSIs) following general anesthesia and surgery. The study was conducted in a prospective, randomized, controlled trial of 36 healthy patients assigned to one of the six antiseptic regimens with 2% CHG or 70% isopropyl alcohol (IPA) solution in a crossover study. The regimens were as follows: CHG 10 min, CHG 2 min, IPA 10 min, IPA 2 min, CHG 2 min Span and CHG 10 min.

RESULTS

The CHG 10 min regimen was associated with significantly lower SSI rates compared to the control regimen.

DISCUSSION

The CHG 10 min regimen appears to be the most effective for reducing SSI rates.

CONCLUSION

CHG 10 min is a safe and effective regimen for reducing SSI rates.

ACKNOWLEDGEMENTS

This study was supported by grants from the National Institutes of Health.

REFERENCES

6. vancomycin-resistant enterococci, from 26 to 9 per 1000 hospital admissions, 70% for this very important factor which influences the risk of SSI.

MicrOLoGICAL METHODS

Samples were collected using the standard scrub-up method (ASTM), using swabs in the sampling form (USP 2001), which was tested and shown to be appropriate. All samples were processed using the standard methods and procedures for the isolation of aerobic and anaerobic bacteria, and all were cultured in duplicate, including different plating techniques (27°C for 48 hours).
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DISCUSSION

The study shows that advance preparation skin preparation reduces the incidence of SSI. In addition, the combination of chlorhexidine and triclosan, a synthetic antiseptic, further reduced the incidence of SSI. Moreover, the results of this study suggest that the combination of chlorhexidine and triclosan is superior to chlorhexidine alone for the prevention of SSI.

METHODOLOGY

The study was conducted in a prospective, randomized, double-blind placebo-controlled trial. The study included 200 patients scheduled for elective cardiothoracic surgery who were randomly assigned to one of four groups: chlorhexidine preparation, triclosan preparation, chlorhexidine and triclosan preparation, or placebo preparation.

RESULTS

The results of the study showed that the incidence of SSI was significantly lower in the chlorhexidine and triclosan preparation group compared to the other groups. The incidence of SSI in the chlorhexidine preparation group was 6%, in the triclosan preparation group it was 10%, in the chlorhexidine-triclosan preparation group it was 2%, and in the placebo preparation group it was 14%.

REFERENCES