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Comparison of antiseptics' efficacy on bacterial infection prevention in hospital environment

In this study the efficacy of antiseptics on bacteria causing hospital infections has been studied. In this study the antimicrobial activity of Descocid, Korsolex basic, Mikrobac forte and persidin 1% was studied against bacteria causing hospital infections such as *Enterobacter aeruginosa* 1221 (NCTC 10006), *Staphylococcus epidermidis* (PTCC: 1435 (Cip81.55) and *Pseudomonas aeruginosa* Strain PAO1. Sensitivities of bacteria were determined by Minimum inhibitory Concentration (MIC) and Minimum bactericidal Concentration (MBC) antiseptics. In the second stage, the concentration of antiseptics was prepared according to the manufacturer's suggested protocol and the effect of antimicrobial agents were studied at the certain concentration and contact time. All disinfectants (Descocid, Korsolex basic, Mikrobac forte) concentration and contact time, Accordance with the manufacturer's brochure, had inhibitory effect on all bacteria. That this is consistent with the manufacturer's brochure. Persidin one percent in concentration of from 2 and 4 V/V % and exposure time 5 minutes could not inhibit the growth of bacterial. But at concentrations of 10 and 20% respectively 15 and 30 minutes exposure time, all three types of bacteria can be inhibited, which is consistent with the manufacturer's claims. In this study, the efficacy of antiseptics was determined with the Micro-dilution method recommended by the NCCLS. Korsolex basic, weakest antiseptics (the highest MIC) for the inhibition of three bacteria was determined. But Between all four antiseptics (according to manufacturer concentration), Only one percent Percidine 2 and 4 V/V % in consumer dilution and 5 minutes exposure time failed to inhibit the growth of *Pseudomonas aeruginosa*, *Staphylococcus epidermidis* and *Enterobacter aeruginosa*.

Recent Publications

1. Hollenbeak CS, Murphy D, Dunagan WC, Fraser VJ. (2002). Nonrandom selection and the attributable cost of surgical-site infections. *Infect Control Hosp Epidemiol.* 23:177-82.
2. Whitehouse JD, Friedman D, Kirkland KB, Richardson WJ, Sexton DJ. (2002). The impact of surgical-site infections following orthopedic surgery at a community hospital and a university hospital. Adverse quality of life, excess length of stay, and extra costs. *Infect Control Hosp Epidemiol.* 23:183-9.
3. Kampf G, Kramer A. (2004). Epidemiologic background of hand hygiene and evaluation of the most important agents for scrubs and rubs. *Clin Microbiol Rev.* 17:863-93.
4. Majtan V, Majtanova L. (2002). Antibacterial efficacy of disinfectants against some gram negative bacteria. *Cent Eur J Public Health.* 10:104-106.
5. Louisiana State University Health Sciences Center. New Orleans Department of Microbiology, Immunology and Parasitology Last Modified. 2002:57-58.

Biography

Mohammad Hadi Dehghani (PhD) is a Full Professor at the Tehran University of Medical Sciences (TUMS), School of Public Health, Department of Environmental Health Engineering, Tehran, IRAN. His scientific research interests include the Environmental Health and Infectious Waste. He is the author of various research studies published at national and international journals, conference proceedings and Head of several research project at the TUMS. He has authored 8 books and more than 150 full papers published in peer-reviewed journals. He is an editorial board member and reviewer in many internal and international journals and is member of several international science committees around the world. He has supervisor and advisor PhD and MSc theses at the TUMS.

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