Sensitivity Analysis and Visualization of Biofilms of Clinically Relevant Bacteria Exposed to Disinfectants

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ABSTRACT

The primary aim of this study was to examine the effectiveness of disinfectants on clinically relevant bacterial biofilms in order to determine their efficacy and monitor changes of bacterial biofilms during exposure to disinfectants. Results from this study will provide further knowledge into how disinfectants act on biofilms, thereby leading to more effective control strategies.

INTRODUCTION

Bacteriological and chemical disinfection is considered as the primary means by which the spread of infection is minimized. The main objective of this study is to examine the effectiveness of disinfectants on clinically relevant bacterial biofilms and to directly visualize the effect of commercially available disinfectants on these biofilms to monitor death of the cells. This is the first study that has undertaken the task of direct visualization of images of pre-stained biofilms were taken during 5-10 min after the onset of they are exposed to disinfectants in order to determine their efficacy and monitor changes of bacterial biofilms during exposure to disinfectants. Results from this study will provide further knowledge into how disinfectants act on biofilms, thereby leading to more effective control strategies.

METHODS

Biofilms were grown in 96-well plates using a protocol similar to that of a previous study. All the test strains were exposed to disinfectants through different concentration. Minimal Inhibition Concentration (MIC) Assay: Biofilms were exposed to disinfectants at different concentration. The minimum concentration of disinfectant that prevents the growth of bacterial cells was considered as the MIC value.

RESULTS

CONCLUSIONS

REFERENCES


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