

Abstract

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Title: Antimicrobial effect of agents predestined for prevention of contamination IV

Master's thesis

Charles university in Prague, Faculty Of Pharmacy

Study program: Pharmacy

Background

In this research we studied the antimicrobial characteristic of paint coats, which had a different concentration of zinc oxide (0%; 4%; 15,2%). We investigated the effect of ultraviolet radiation in antimicrobial activity of paint coats.

Methods

Bacteria being tested included *E. coli*, *S. aureus* and *C.albicans*. We left the suspension of bacteria in contact with paint coats and we taken samples in defined time intervals. The first part of samples was irradiated by UV radiation for 30 minutes before application of microbial suspension. The second part of samples was irradiated by UV radiation for 30 minutes at the same time with microbial suspension. The third part of samples was not irradiated by UV radiation. The results were evaluated by bacterial colony plate counting.

Results

The paint coats have antimicrobial activity even without application of UV radiation. UV radiation enhances the antimicrobial properties and activates paint coats.

Conclusions

We have demonstrated the antimicrobial effects against all of the three species of bacteria. The most antibacterial result was against *E .coli*. The most effective was paint coat with 4% zinc oxide.