

Title: *Acinetobacter baumannii-calcoaceticus*: survival to desiccation, in water and resistance of biofilms to action of disinfectants

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*Acinetobacter baumannii-calcoaceticus* is considered a pathogen of great concern in the hospital environment, their ability to survive in harsh environments and its high antibiotic resistance has increased indexes of morbidity and mortality in hospitals. It was analyzed about 25 strains as to their capacity to survive in environments free of water (desiccation), in distilled water and germicidal activity of disinfectants on preformed bacterial biofilms. To verify the survival in a dry environment and distilled water, the standard inoculum  $10E5$  to  $10E7$  UFCmL<sup>-1</sup> was inserted into dry eppendorf tubes (for the test of desiccation) or distilled water (for the test of viability in water) and in times of 0h (control), 24h, 48h, 72h, 1 week and 2 weeks, the surviving cells were recovered from the tubes and plated on the BHA. To analyze the efficiency of disinfectants on pre-formed biofilms, 18 strains were selected, great forming biofilm, which were inoculated onto BHI 0.5% sucrose microplates after the incubation period (48 hours) the pre-formed biofilm was subjected to treatment with the disinfectants (0.5% hypochlorite for 30 minutes, 2% glutaraldehyde for 30 minutes or peracetic acid 2% for 10 minutes). After the treatments, the disinfectants were washed aseptically from microplate and were replaced by sterile saline for recovery of surviving cells (viable). Of the 25 strains analyzed, only 28% (7/25) remained viable for up to 48 hours in desiccation and 80% (20/25) survived in water for up to 1 week. As the effectiveness of disinfectants: 90% (18/20) were eliminated after treatment with hypochlorite, 80% (16/20) did not survive the glutaraldehyde and the peracetic acid was more efficient, eliminating all bacterial cells. *Acinetobacter baumannii-calcoaceticus* was shown to be able to survive in inhospitable environmental conditions, mainly in water which can favor the environmental and hospital contamination. However some strains can present circumstantial resistance to disinfectants in lifestyle biofilm, they were effective in controlling *Acinetobacter*'s biofilm when used according to ANVISA's standards and recommendation of their manufacturers.

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