The Bacteriostatic Effect of Illicium Verum and Citrus X Limon in Staphylococcus aureus and Beta-hemolytic Streptococcus (GBS)

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Nowadays most of the bacteria are showing resistance against most of the antibiotics because they've been overused. Because of this, this investigation focused on studying the bacteriostatic capabilities per concentration of the commercial extracts of Illicium verum (Star Anise) and Citrus x limon (Lemon) over the microorganisms Staphylococcus aureus and beta-hemolytic Streptococcus (GBS). The hypothesis was that, if these extracts stayed in contact with these microorganisms during 24 hours in different concentrations, their growth would decrease. A three-day experiment was conducted using twelve test tubes with TSB growth medium that contained 100%, 50% and 10% concentrations of the extracts; these were subdivided in two groups of six samples. Half of these subgroups contained S. aureus and the other, GBS. Three other test tubes worked as control groups. After 24 hours of incubation, the samples were transferred to blood agar plates. Cultures were incubated during another 24 hours; then, observations were made, and data was collected in tables based on the growth of the bacteria. It was observed that the 50% and 100% concentrations of the extracts had no bacteriostatic, but a bactericide capability because the bacteria decreased until they weren't visible on the plates. It was concluded that both of the extracts worked as bactericides over the bacteria used. Their effect resulted in the reduction of microorganisms that grew in the beginning, based on those that were seen in the experimental control groups of the experiment; so the hypothesis of the investigation was confirmed.

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