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TURMERIC IN ANTIMICROBIAL THERAPY: AN INTERESTING STUDY ON GRAM-VE AND GRAM+VE ORGANISMS

Abstract

Objective: Turmeric (Curcuma longa L) induced inactivation on K.Pneumoniae, and staphylococcus aureus in the presence of Sun light is described. Design and Methods: Turmeric (Curcuma longa L.) is a medicinal plant of the Zingiberaceae family found in many parts of the world. It is used in Ayurvedic, Siddha and Unani medicine for remedies of common diseases in the home. Its main active chemical constituent is curcumin. Curcumin has many pharmacological properties: positive effects on the cardiovascular system (improving Ca2+ homeostasis and hypocholesteremic), positive effects on nervous system (vascular protection), anti-inflammatory effects, antioxidant effects, anti-carcinogenic effects (induction of apoptosis), antimutagenic effects, anticoagulant effects (inhibits collagen and adrenaline-induced platelet aggregation), antifertility effects (inhibits 5-reductase), antidiabetic effects, antibacterial effects, antifungal effects, antiprotozoan effects, antiviral effects (inhibits HIV-1 integrase), antivenom effects, positive gastrointestinal effects and antifibrotic effects.

As part of our ongoing research, Herein we demonstrate vitro experiments leads to inactivation of k.pneumoniae and staphylococcus aureus have been explored .The experimental results showed that K.pneumonia and staphylococcus aureus in blood as a standard for all gram-negative /gram positive bacteria is inactivated by sunlight for periods over 2 hours of exposure and that the addition of turmeric dramatically increases the inactivation of the said bacteria in sunlight. The control sample contained a total of 2.3 x 108 and 2.5x108 bacteria/ml of blood and was reduced to 1.9 x 108 bacteria/ml of blood after 2 hours of solar irradiation and to 1.5 x 108 bacteria/ml of blood after 2 hours of solar irradiation with 50mg of turmeric and to 0 bacteria/ml of blood with 80 and 140mg of turmeric. It also found that sunlight is not critically lethal to blood when in contact for 1 hour as the blood components are still in the accepted healthy range after a doing complete blood count.