



Antibiotic Resistance – Prospects of a Novel Remedy from Natural Products

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Biography:

Dr Prakash U. Tahiliani completed his MBBS in 1981 from Ravi Shankar University, Raipur, INDIA. He is working as clinician, consultant Malariologist & Infectionist at DN Mehta Parsi General Hospital, Navsari, INDIA. He has been working on Diagnosis & Treatment of Malaria since 1983. An anti-malarial herbo-mineral research product discovered by him & manufactured by 'Prime Ever Ayurvedic Research Laboratories' is available in Indian market since 2001 with the name "Cap Plasmonil".

Abstract

Antibiotic resistance is rising to dangerously high levels in all parts of the world. In US alone more than two million people become infected with bacteria that are resistant to multiple drugs (Report of CDC – 2013). Antibiotic resistance, increases health care costs and lowers the quality of medical treatment. A World Health Organization (WHO) report released April 2014 stated, "this serious threat is no longer a prediction for the future, it is happening right now in every region of the world". Regarding phenotypic mechanism of development of antibiotic resistance, eminent US herbalist Stephen Harrod Buhner says "Every life on this earth is highly intelligent and unbelievably adoptable to ensure its survival". As soon as a bacterium develops a method for countering an antibiotic, it systematically begins to pass the knowledge on to other bacteria at an extremely rapid rate. In the presence of an antibiotic, learning rate of bacteria increases by several orders of magnitude. These observations and statements have invaluable practical implications to control the development of antibiotic resistance. Without urgent action, we are heading for a post-antibiotic era, in which common infections and minor injuries can once again kill the people as it used to happen in pre-antibiotic era. Organ transplants, chemotherapy and surgeries become much more dangerous without effective antibiotics for the prevention and treatment of infections. The pharmaceutical industry has little incentive to invest in antibiotics because the potential financial returns are less likely to cover the cost of development. Now time has come to discover and develop new antibiotics from natural products by "Reverse Pharmacology" approach which reduces three major bottlenecks cost, time and toxicity and being in contact with pathogenic micro-organisms since centuries together, natural products / medicinal herbs have developed complex substances with them which are highly effective to tackle with these pathogens.