

Post-antibiotic era is a worldwide challenge for health care: what to do ?

Letter to Editor

In this 21st century, antibiotics are almost worn out due to global antibiotic resistance scenario. It has become a worldwide concern to cope with the existing situation, where, even last resorts of antibiotics are not effective against common infections. After the discovery of New-Delhi Metallo β -lactamase-1 (NDM-1) and its variants, evolving mutants, it is becoming difficult to use any β -lactam antibiotics, even carbapenems. Moreover, the use of colistin/polymyxin was one of the optimism to control such infections but MCR-1 discovery has turned down that prospect. Antibiotic resistance has now been recognized as serious global menace of 21st century to the mankind. Therefore, WHO has declared it as the priority research area and a “Global Action plan on antibiotic resistance” has already been launched to prevent this disaster taking to pre-antibiotic era.

In this desperate situation, a smart idea is

to make use of the existing resources in order to combat with this catastrophe. Hence, my research group has proposed two approaches which have already been experimentally proved and published, in vitro. First, an approach of synergism, use of combination antibiotics against strains of multi-antibiotic resistant bacteria. We have shown effective use of ceftiofuran in combination with streptomycin and cefotaxime against multidrug resistant strains of bacteria, including NDM-1 producing bacteria [1]. We have also described a possible mechanism of synergism [2]. Another novel initiative is photodynamic therapy, using nontoxic photosensitizers against bacteria. This has exclusively non-specific action through generation of free radicals, damaging bacterial cells without effecting human system [3].

I am sure this write up would definitely help health workers as well as for those, seeking health.

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