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Abstract

Discovery of a Novel Anti-bacterial Broad-Spectrum Agent; a first since the fluoroquinolones introduced five decades ago!

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Abstract:

Anti-microbial resistance (AMR) is a global emergency that affects the entire spectrum of clinical practice and is not only a problem when someone contracts infections. This is not easily intuitive to most who still view AMR as a problem of the Infectious disease (ID) specialists in the clinic and microbiologists in the diagnostic labs. Thanks to AMR, simple surgical procedures will become untenable. The most advanced cardio thoracic surgeries to treat heart ailments will be derailed due to the humble drug-resistant bacterium. Cancer treatments, which offer life extensions and improved quality of life, will become useless when the patient now succumbs to infection and not cancer. Tackling AMR is a combination of scientific innovation, responsible social behavior and strong political will. India is at the epicenter of the AMR problem However, this also sets the stage for indiscriminate use that leads to sub-optimal use of antibiotics. Bacteria when exposed to sub-lethal levels mutate and develop antibiotic resistance. The convergence of factors such as poor public health infrastructure, rising incomes, a high burden of disease, and cheap, unregulated sales of antibiotics has created ideal conditions for a rapid rise in resistant infections in India. It is a first-in-class novel chemical entity (NCE) that exhibits potent killing of pan-resistant superbugs such as E. coli (including ESBLs, NDM-1), S. aureus (including MRSA), K. pneumoniae (including KPCs), multi-drug resistant A. baumannii, multi-drug resistant P. aeruginosa, E. faecalis (including VRE), multi-drug resistant N. gonorrhoeae, H. influenza, Proteus sp., Citrobacter sp., Morganella sp., C. difficile, S. pyogenes, S. pneumoniae, S. epidermidis and bio- threat pathogens such as Bacillus anthracis, Yersinia pestis, Francisella tularensis, Burkholderia mallei, Burkholderia pseudomallei etc. The lead has excellent animal efficacy with good safety profile in pre-clinical species. The drug candidate is poised to enter Phase 1 studies in early 2020.

Biography:

Bala is a microbiologist and a drug hunter who received his PhD from the University of Wisconsin-Madison and post-doctoral training at the Albert Einstein College of Medicine, NY. Subsequently he gained leadership and management experience over two decades in the pharmaceutical industry. .

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