M V Raghavendra Rao et al., Clin Microbiol 2016, 5:5(Suppl)
http://dx.doi.org/10.4172/2327-5073.C1.024

6th Clinical Microbiology Conference

New challenges in emerging and re-emerging trends in Parasitic diseases

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"Warm countries are the worm countries". Parasitic infection is a global health problem especially in developing countries. Emerging parasitic diseases are those diseases that have been newly appeared or that have existed in the past but are now rapidly increasing in frequency, geographical range or both. Emerging zoonotic diseases hamper both human and animal health and cause economic loss. The ecosystem is increasingly and continually being put in to turmoil by human acts such as deforestation and global warming with the resultant alteration in the distribution and behavior of parasites and their vectors. Ecologic changes, demographic changes, behavioral changes, travel and immigration are also contributed in emerging and reemerging parasitic infection. These infections will continue to emerge and reemerge leading to unpredictable epidemics and challenges for the clinicians /scientists. Hence there is urgent need of surveillance and control. Dracunculus is almost eradicated but it is reemerging. African trypanosomiasis, Cutaneous Leishmaniasis, emerging as new out breaks.

High level of innovation triggered on genomics, RNA biology,proteomics,genomics, nanotechnology,nanoscience, and animal models. The strategic focus is on technology development in the areas of bio therapeutics, cell therapy, vaccines, diagnostics, bio markers,advanced pharmaceutical sciences and clinical research for improvement of health and free from parasitic diseases. Challenges and risks in governance management certainly prevent the reemerging parasitic infection.

Background: There are two major challenges to combat emerging and reemerging parasites, designing a drug that could potentially target the adult parasites and larvae.Most drugs in the pipeline have failed in clinical trials.The present talk focuses on these issues with a focus on drug design and targets.

Objectives: The major objectives to be discussed in the talk are

New thoughts in drug design for complete eradication of adult,larval, ova and cysts of parasites.

New biochemical targets for drug screening

The talk focuses as a hot debate on drug discovery for total eradication of parasites

Why more failures than success?

The proposed talk covers:

New discoveries in anti-parasitic drugs. A new hope, and novel biochemical pathways needs to be identified as drug targets for removal of worms.

Animal models: Viviparity is common amongst mammals but not many provide long gestation period.To study long term parasitic toxic effects, it is essential to use long gestation period laboratory animal model. Rats,mice,rabbits and dogs less than 2 months. Where as gestation period is long as in case of sheep,horsesmonkeys,they are not available and viable for research because of cost procurement and maintenance.In this situation scorpion comes handy. The gestation period of scorpion is little over 10 months. It is cheap, available, and viable. Dr Rao, used scorpion as a research model in estimation of heavy metals mercury and lead in embryonic development of scorpion.Introducingparasites in scorpion and observing the drug effect and reversal effects can be studied.

Challenges: Killing the adult parasites, larvae, cysts and ova is the most important need for total eradication of emerging and reemerging parasites.

Thus this talk has a great temperament for basic researchers and clinicians.

Biography

M V Raghavendra Rao worked as Professor of Micro biology ,Parasitology , immunology and Epidemiology in many Universities in India, China, Nepal, Libya, and Philippines . Currently I am working at Avalon University School of Medicine, Curacao, Netherland Antilles. I have more than 40 years of teaching and research experience. Supervised 3 students forPh.D, 8 students forM.Phil, 3 students submitted their Ph.D thesis to the Acharya Nagarjuna University, Guntur ,AP, India and waiting for degree. Authored 18 text books. Three Universities appointed me as their advisor and three universities with fellowships.

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