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Nanomedicine Research, Process Scale up, Manufacturing and Pk/Pd-A State of the Art

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Extended Abstract

Abstract

Nanomedicine is the future of medicine. Nanotechnology in medicine precisely uses processes to manipulate the structural and functional properties of a molecule at nanometer levels and thereby achieve better safety and efficacy profile of current therapeutic drugs and macromolecules.It has excellent market potential with currently more than 120 drugs are under clinical trials for nanomedicine. Diverse drugs and macromolecular therapeutics with very less half-life or therapeutic index have been given a new lease of life with nanomedicine-based approach. This approach is useful for medical, dental, orthopedics and implants which can deliver the drug over a period of time through a variety of routes of administration. Ultra-smart materials with a targeted delivery potential which is responsive to various cell, tissue and organ stimuli are being developed and being tested in vivo. The huge interest of start-ups and big pharma alike in nanomedicine has created a high value in thetrend, understanding, innovation, and regulatory involvement for submissions.

Food and Drug Administration (FDA) has not established its own definition for “nanotechnology,” “nanomaterial,” “nanoscale,” or different connected terms, instead adopting the meanings unremarkably used in relevance the engineering of materials that have a minimum of one dimension within the size vary of roughly one nm (nm) to one hundred nm. supported this scientific and technical understanding of nanomaterials and their characteristics, agency advises that evaluations of safety, effectiveness, public health impact, or restrictive standing of technology product ought to think about any distinctive properties and behaviors that the appliance of technology might impart (Guidance for business, FDA, 2014). in keeping with the previous definition, there are 3 basic aspects to spot the presence of a nanomaterial, that are size, particle size distribution (PSD) and extent.

An optimistic purpose of read believes nanosystems are a part of the twenty first century age, associate degree enabling technology for the nations’ health and wealth improvement. During this context, we tend to predict nanomedicine for the personalization of treatments to supply applicable therapies to a wider variety of patients. On the opposite hand, a hopeless purpose of read encourages a “go-slow” approach, taking a cautious position from that it's obligatory to initial collect all info concerning nanomedicine’s risks (currently lacking), passing through restrictive agencies and at last approving solely those absolutely characterised as safe therapies. As in several cases, the important scenario is somewhere between those 2 points of read. Although there are various references within the literature to nanotherapeutics and current existing nanomedicines, it's honest to admit that we've not nevertheless succeeded in developing economical and curative therapies for several diseases. The most drivers of failure may be our misunderstanding or forgetting of the existent nonuniformity in unhealthy people. Additionally, current nanotherapeutics is outlined as first-generation therapies, while not specific targeting to the specified web site of action. Therefore, we've not been able to fine-tune nanomedicines in accordance with the particular needs of every patient and far effort is needed to develop scientific platforms of data of patients’ variability to change the event of personalised nanomedicines.

From the expertise on already designed and marketed nanotherapeutics, it's expected that nanomedicine can revolutionize current therapies, however to attain it pharmaceutical industries should believe the advantages of nanomedicines. Currently, there's an enormous gap between analysis laboratories and clinical use of nanomedicines, even though there are a vast variety of publications concerning nanotherapeutics. To encourage social group acceptance of nanomedicine as a medical care of the long run, experiments should be rigorously designed to facilitate its translation to the market and its use in personalised therapies.

Nanotechnology 2020 created a platform for Nanomedicine organizations, researchers, academicians, Doctors, Surgeons, Material Engineers, Industries & who all are the part of nanomedicine, to deliberate, discuss, find innovations to unmet medical needs, and facilitatethe regulatory approval process, thereby clinical translation of these nanomedicines from bench to bedside. It came up with a theme “Nanomedicine” to cater to the demands of each and every stakeholder and provide a platform to get the desired solution.

Biography

KuntalGangulyhas completed his PhD in Pharmaceutical Sciencesfrom Jawaharlal Nehru Technological University, India in collaboration with University of Texas, USA. He is the Head of Formulation Development at Venus Remedies Limited India and GmbH. He has over 600 citations and his/her publication H-index is 9. He has been granted 3 US patents and has been serving as an editorial board member of reputed Journals.