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7th International Conference on

Predictive, Preventive and personalized Medicine & Molecular Diagnostics

October 05-06, 2017 Chicago, USA

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Jain PharmaBiotech, Switzerland

Application of principles of personalized medicine for cancer management

Cancer is the most important area for application of personalized medicine, also called precision medicine. This workshop will deal with the basic principles of personalized oncology. Cancer is a multifactorial complex disease. Variations in behaviors of cancer of the same histological type, from one patient to another are taken into consideration in addition to variations among patients. Cancer varies both genetically and phenotypically between patients who may have the identical type and stage of cancer. Epigenetic factors also play a role. Each person's cancer is as unique as his or her fingerprint. Personalization of cancer therapies is based on a better understanding of the disease at the molecular level. Molecular diagnostics, molecular imaging, sequencing and monitoring of gene expression by microarrays are important technologies for this purpose. Integration of information gained from various 'omic' technologies such as genomics, proteomics, metabolomics, is important in developing personalized approaches. Identification of cancer biomarkers that can enable pre-symptomatic diagnosis, stratification of cancer, assessment of its progression, evaluation of patient response to therapy, and the identification of recurrences. Study of cancer pathways is providing new targets for anticancer drugs. Among the available therapeutics, matching of the right drug to the right type of cancer and appropriate combination of various options required for a complex disease is important. Improvement of drug formulation and delivery is facilitated by nanobiotechnology. Anticancer medicines can be targeted to the tumor and spare the normal tissues to reduce systemic toxicity.

Biography

K K Jain is a Neurosurgeon with his career in North America. After retirement from Neurosurgery, he started a second career in Pharmaceutical Medicine and Biotechnology in Switzerland. Currently, he is a Fellow of the Faculty of Pharmaceutical Medicine of the Royal College of Physicians of UK. He is developing personalized medicine since 1998, and wrote the first monograph on this topic, which evolved into a textbook and the 2nd edition was published by Springer in 2015. His 465 publications include 27 books (5 as Editor and 22 as the Author), e.g., *"Applications of Biotechnology in Oncology"* (Springer, 2014) as the sole author and *"Nanooncology: Clinics Lab Med"* (Elsevier, 2012). Editorial Board Memberships of journals including *"Technology in Cancer Research & Treatment"* and *"Nanomedicine"*.

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