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Advanced discussions of the current issues and analyzing the novel approaches of bioavailability & bioequivalence

Yibin Feng

The University of Hong Kong, China

Abstract

Advanced analytical technologies have provided approaches in analyzing the bioactivities of single component drugs, while the complexity of chemical composition in multi-component drugs makes it difficult in identifying the chemical and biological basis underlying the pharmacological actions. Various measures have been developed and systems biology and OMICS are meaningful philosophy and technologies for this purpose. As one of the specific methods, the recent development of combining pharmacokinetics with network pharmacology approaches has been proved to be a useful tool in the study of multi-component drugs. *In vivo* pharmacokinetics is able to identify the compounds in multi-component drugs that accounts for the drug-response and the pharmacokinetic profile of multi-component drugs could elucidate the possible interaction between different components. The pharmacokinetic profile could preferably determine the material basis of multi-components drug actions. Network pharmacology is useful in illustrating the regulatory network of a single component drug, and is also a powerful means of understanding the interaction of multi-components drugs. With data mining technology, the possible targets of each component that are identified in pharmacokinetics could be included. The protein-protein interaction induced by multi-components drugs can be analyzed by bioinformatics soft ware. This helps to identify molecular basis of multi-component drugs in treating human diseases. In a word, the combination of advanced integrated and specific methodologies is a novel and powerful approaches in evaluating the chemical and biological basis of multi-components drugs including Chinese Medicine formulae.

Biography

Yibin Feng is currently an Associate Professor cum Assistant Director in the School of Chinese Medicine, The University of Hong Kong, HKSAR, China. He obtained his Bachelor degree in Chinese medicine from China and completed his Ph.D. and postdoctoral studies in molecular medicine in Hokkaido University School of Medicine, Japan. Being an expert in the study of pharmacology and toxicology of Chinese medicines, his research interest is focused on clinical trial and experimental study on cancer, diabetes, hepatic, and renal diseases by using recently developed techniques in OMICS, pharmacology, and immunology. He has published over 100 publications in these areas.