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Farmacogenetics and herbal medicines

Diadelis Remirez Figueredo
National Centre for State Quality Control of Drugs and Medical Devices, Cuba

The science of pharmacogenomics has advanced significantly in the last five years, but it is still in infancy and is mostly used on research basis. The pharmacogenomics helps identify interindividual variabilities in drug response (both toxicity and effectiveness). Due to the fast growing in the consumption of phytomedicines, it is necessary the investigation of mechanism of actions of these products with more rigor. The herbal medicines like synthetic drugs have been showed their bioactivation through cytochrome P-450, the main enzyme involved in the metabolism of xenobiotics. In this work, the main enzymes involved in the metabolism of phytomedicines, the advantages and disadvantages of bioactivation to metabolites less or more toxics are described as well as the pharmacodynamic interactions involving herbs. Moreover, the herbs which affect the P-glycoprotein activity in vitro will be showed. These studies strengthen and optimize the safety of herbal medicines.

The hope for the future is that through personalized medicine, doctors and patients will be able to make better-informed choices about treatment. This treatment will avoid the adverse drug reaction to the medication and will improve the diagnosis diseases as well as the prevention and treatment of diseases.

Biography

Diadelis Remirez Figueredo received her B.A. (1995, Biochemistry) from Faculty of Biology, Havana University, Cuba, and both her M.Sc. (1995, Biomedicine) and Ph.D. (1999 Pharmaceutical Sciences) from National Center for Scientific Research in Havana, and most of the results were done in the Department of Toxicology at the Free University in Amsterdam. Postdoctoral training in Molecular Toxicology and Pharmacology was completed at the Faculty of Pharmacy in Toronto, Canada. She spent 12 years working at the National Center for Scientific Research in the Pharmacology department. Since 2002, she has been working at the National Centre for State Quality of Drugs and Medical Devices, she has acted as referee for Ph.D. thesis and she is an adjunct member of Pharmaceutical Sciences Ph.D. thesis Jury. She has been referee of scientific journals related with natural products. Her other previous academic appointments include lecturer in different international meetings. She has been the recipient of National Award of Pharmacology twice from the Cuban Pharmacology Society. In recent years, she has been a member of the Scientific Advisory Council of the Centre that she works. She worked as expert for the evaluation of preclinical platform in South Africa, Council for Scientific Industrial Research (CSIR). She is currently the vice president of Cuban Pharmacology Society. She has been involved in the reorganization of Latin American Society and in the organization of different international and local congress. Her research interests have included in vitro and in vivo evaluation of hepatoprotective, antiinflamatory and antioxidant effects of Cuban synthetic and natural compounds, and investigation of the molecular cytotoxic mechanism involved in drug toxicity. At present in the Regulatory Agency, she is one of the reviewers for authorization of clinical trials, and the evaluation of safety and efficacy of drugs for registering. Besides that, she is the project leader for Pharmacogenetic guideline. Her research is described in over 30 published research reports.

diade.remirez@infomed.sld.cu