

EDITORIAL

Radionuclides have undertaken an increasingly important role to the study of biochemical pathways and to the diagnosis and treatment of diseases since they have been introduced in Health Sciences. In the *Advances in nuclear medicine and in radiopharmaceuticals, the First Meeting in Cabo Frio, Rio de Janeiro, Brazil*, we are having the opportunity to be in touch with various national and international researchers that are presenting the newest achievements of the applications of radionuclides in Health Sciences.

The use of radionuclides as radiotracers or as radiopharmaceuticals have been extremely worthwhile and they are available worldwide. Innovative techniques with radionuclides is constantly demanding a permanent contact with the advances in this area. This knowledge is used in Nuclear Medicine procedures that help the physicians in the evaluation of infection, inflammation, hematological disorders and oncology and other pathological conditions.

The procedures in nuclear medicine are mainly related with the diagnosis of diseases and the single photon emission computed tomography (SPECT) has been improved and the positron emission tomography (PET) has increased its utilization in several countries. Besides, the therapy of diseases with radiopharmaceuticals has also a relevant importance and the improving and developing of various radiopharmaceuticals with this purpose is happening. These applications of radionuclides depend on the experimental assays in Radiopharmacy and the establishment of models using experiments with animals.

As most of the patients that needs nuclear medicine examinations are under treatment with several medications, it is worthwhile to try to understand better the phenomenon of drug interaction with radiopharmaceuticals and the consequence to its bioavailability. This knowledge will help to prevent misdiagnosis and the repetition of the nuclear medicine procedure.

As the SPECT and PET techniques as well the therapy procedures are been frequently used, the knowledge about radiobiology and the better quality controls in radioprotection is worthwhile to use the sources of radiation with a negligible radiation dose to the patient and a minimal environmental impact.

On behalf of the Organizing Committee, we have the great pleasure in thanking the *Universidade do Estado do Rio de Janeiro*, the *Sociedade Brasileira de Biociências Nucleares*, the *Prefeitura Municipal de Cabo Frio*, each colleague that is attending this meeting, the sponsors and the Editor of the Brazilian Archives of Biology and Technology the opportunity to publish the full papers concerning to the lectures of the invited speakers in a special issue of this Journal.

Guest Editors
Mario Bernardo-Filho
Ruy Garcia Marques
Egberto Gaspar de Moura