Aims & Scope:

Effective therapy and molecular imaging of tumors are one of the most challenges of current clinical research. Radiopharmaceuticals can effectively, painlessly and safely determine and treat cancer or relieve its symptom, thereby present noninvasive and the most attractive methods for rapid detection and treatment of tumor tissue. Encouraged by the successful applications of radiopharmaceuticals in diagnosis and treatment of cancer as well as the fact that more and more FDA-approved radiopharmaceuticals are emerging (e.g., $^{18}$F-FDG Positron Emission Tomography (PET) in diagnosis of diverse cancers, Yttrium-90 in treating hepatocellular carcinoma and radioimmunopharmaceuticals drugs including $^{131}$I-tositumomab and $^{90}$Y-ibritumomab tiuxetan in treating lymphoma), dramatically growing interest in radiopharmaceuticals has been shared by an increasing groups of medicinal chemists and radiochemists for development of radiopharmaceuticals, as well as oncologists for diverse applications of radiopharmaceuticals in cancer treatment. This thematic issue was organized to review the methods and current status of the development of radiopharmaceuticals, and representative clinical and methodological results. The latest findings of the most productive strategies to ensure the potential benefits of radiopharmaceuticals will also be reviewed. The aim of the this issue is to provide a forum for the exchange of clinical and scientific information for the nuclear medicine community and allied professions involved in the functional, metabolic and molecular investigation or reviewing of diverse cancers. Due to space constraints, this issue will remain of primary interest to those practicing the field of radionuclides in cancer treatment or diagnosis but will also report on works relating to physics, dosimetry, radiation biology, radiochemistry and pharmacy of radiopharmaceuticals.

Key words:
Subtopics:

1. Radiopharmaceuticals for cancer therapy

   Dr Bieke Lambert, Nuclear Medicine Division, Ghent University Hospital, Gent, Belgium.

   E-mail: bieke.lambert@ugent.be

2. Radiolabelling methods.

   Renato A. Valdés Olmos. Department of Nuclear Medicine, the Netherlands Cancer Institute, Plesmanlaan 121, 1066 CX Amsterdam, the Netherlands.

   E-mail: r.valdes@nki.nl

3. Radiopharmaceuticals used in locoregional therapies of cancer

   Riad Salem, Section of Interventional Radiology, Department of Radiology, and Divisions of Hematology and Oncology and Hepatology, Department of Medicine, Robert H. Lurie Comprehensive Cancer Center, and Division of Transplant Surgery, Department of Surgery, Northwestern Memorial Hospital, Chicago, Illinois.

   E-mail: r-salem@northwestern.edu

4. Role of radiopharmaceuticals in combination therapy of cancer, especially when conjugating with antibody

   Dr Dario Neri, Department of Chemistry and Applied Biosciences, ETH Zurich, Wolfgang-Pauli-Strasse 10, Zurich 8093, Switzerland.

   E-mail: neri@pharma.ethz.ch

5. Radiopharmaceuticals for diagnosis of cancer

   Dr Ambros J Beer, Department of Nuclear Medicine, Technische Universität München, Klinikum rechts der Isar, Ismaningerstr 22, 81675 Munich, Germany.
E-mail: ambros.beer@tum.de

6. Radiopharmaceuticals for hematological cancer

Franck Morschhauser, MD, PhD, Department of Hematology, Hospital Claude Huriez, F-59037, EA 4481 GRIIOT, Universite´ de Lille 2, Lille, France;

E-mail: franck.morschhauser@chru-lille.fr.


Renato A. Valdés Olmos, Department of Nuclear Medicine, The Netherlands Cancer Institute, Plesmanlaan 121, 1066 CX Amsterdam, the Netherlands.

E-mail: r.valdes@nki.nl

Schedule:

Manuscript submission deadline: August 1st 2014

Peer Review Due: Sept. 1st 2014

Revision Due: Oct. 1st 2014

Notification of acceptance by the Guest Editor: Oct. 15th 2014

Final manuscripts due: Nov. 1st 2015