

Natalia Dengina, MD, radiation oncologist, head of radiotherapy department of Ulyanovsk regional clinical oncology center, director of Center of TomoTherapy “R-Spei”, Ulyanovsk, Russia

Radiation oncologists, medical oncologists, radiopharmacists and clinical pharmacologists in Russia: is there any interaction?

Radiation oncology, having traveled a path of almost 130 years, has reached incredible heights in terms of technological advances and treatment effectiveness. Currently, more than 50% of cancer patients receive radiation therapy at various stages of treatment, mainly with the use of external beam radiation, but some patients receive radionuclide therapy if indicated. Current standards of cancer treatment imply the combined use of radiation and systemic therapy to increase the effectiveness of the impact on the tumor and improve long-term treatment outcomes.

Further development of pharmaceutical science in oncology and the introduction of targeted and immunotherapy will undoubtedly expand the range of indications for the combination of radiation and systemic therapy - but at the same time, we know that such a combination always presumes greater toxicity, which requires careful and strictly individual selection of the scheme, doses of drugs and accompanying therapy. Therefore, a whole team of doctors of various specialties should be involved in the treatment of each patient of radiotherapy department - not only the attending physician (radiation oncologist) and medical oncologist, but also a clinical pharmacologist.

As far as the issue of radionuclide therapy is concerned, there is a significant lag of Russia from the world level. The biggest problem remains the current situation with the availability and level of specialists' training for the work in existing and emerging nuclear medicine facilities. At the moment, the list of the All-Russian classifier of specialties for higher professional education does not include the specialty "Radiopharmacist".

In order to understand whether there is interaction between oncologists (radiation, medical) and clinical pharmacologists during conservative treatment of cancer patients and how close it is, as well as what is the role of radiopharmacists in Russia, we created a questionnaire for doctors of various oncological specialties. The results of the survey will be presented on the session.

Abstract – Michal Budinsky, Czech Republic

To be (or not to be) a radiopharmacist

At the department of nuclear medicine pharmaceutical staff is represented by radiopharmacists and radiopharmaceutical laboratory technicians. Presence of university educated radiopharmacist is required as a guarantee of good radiopharmaceutical practice (GRP). The cooperation of radiopharmacists and radiopharmaceutical laboratory technicians allows manage more difficult radiopharmacy technology in respect of quality and safety.

Call for expert radiopharmaceutical staff is high, availability is rather poor. Situation is different in every state of Europe and even at every department. The involvement of pharmacists in the field of radiopharmacy can vary greatly from country to country depending on national laws and on the type of facility supplying the radiopharmaceuticals. The same is also for educational programs which should prove that enough knowledge of pharmaceutical sciences together with radiation physics provide the essential academic background of a radiopharmacist bearing in mind the dual nature of radiopharmaceuticals as both medicines and radioactive products.

Radiopharmacist, an expert in radiopharmacy, is a respected person for radiopharmacy management at the department of nuclear medicine. Radiopharmacy education from the period of university studies, postgraduate specialized radiopharmacy education and possibility of personal growth can increase interest of pharmaceutical staff in this branch of pharmacy.

Innovations in radiopharmacy: current status and future perspectives in theranostics

Monica Santimaria¹ & Maria Cecilia Giron²

¹Department of Nuclear Medicine AULSS 8 Berica, S. Bortolo Hospital, Vicenza, Italy

²Department of Pharmaceutical and Pharmacological Sciences, University of Padova, Padova, Italy

Precision medicine, the tailoring of medical treatments to each patient, is recognized as a critical aspect of future healthcare. Nuclear Medicine will play a major role in selecting the right patient for the right targeted therapy by integrating genetic profiling into sensitive and specific imaging techniques and theranostic approaches. In the last decade, the development of innovative targeted radionuclide strategies has provided efficacious treatment modalities against cancer. The landscape of cytotoxic systemic radionuclide treatments has dramatically expanded through the past decades, revolutionizing the field thanks to the advances in radiochemistry and radiopharmacy with new radiolabeling techniques and chelators. Furthermore, the clinical use of radiotheranostics compared to conventional chemotherapeutics can be more complex because of logistical challenges and regulatory hurdles, especially in a context of an international shortage in the number of trained radiopharmacists. The safe application of radiotheranostics requires a multidisciplinary team of specialized nuclear medicine physicians, radiopharmacists, physicists, and nurses to ensure patient safety. Beside reviewing patient profiles and answering questions related to the drug properties and uses, additional expertise in the field of radiopharmacy is essential for formulating and safely dispensing these complex drugs, especially when handling large quantities of therapeutic radioisotopes, such as β -emitting and α -emitting radionuclides.