27 EU

PRISMAP

Medical Radionuclides

Summary

Challenges in nuclear medicine

Public event, Lisbon, 28 Nov 2023

Round table summary

On 28 Nov 2023, day 2 of the 6th Consortium meeting, a PRISMAP public event about the "Challenges in nuclear medicine" was organized at the Lisbon School of Medicine. At the end of the first session, a round table took place. The speakers of the morning were then open to questions from the audience and discussion of the topic.

Participants at this round table were:

- Thierry Stora, CERN, PRISMAP (TS)
- António Paulo, IST-ID (AP)
- Francisco Alves, ICNAS (FA)
- Bernard Doger, START (BD)
- Gonçalo Ferreira, IPO Porto (GF)
- Luís Costa, Hospital de Santa Maria de Lisboa – HSM (LC)

The audience was invited to ask questions, which were answered and discussed by the panellists:

Question: Is it possible to carry out a therapy with radionuclides after a previous therapy with another modality? According to GF, it is possible to improve the survival and quality of life of patients, but not to cure them. There is currently no documented information on the difference between α or β-therapy. The main concern is myelotoxicity. Since patients are living long term, they cannot be treated with other therapeutic options. AP says these concerns can be minimised by using best performing radiopharmaceuticals that need to be designed and evaluated.

Question: Is there evidence to support the observation of an increased incidence of leukaemia after radiotherapy for cancer treatment due to long-term toxicity? GF and LC agree that although there is no clear evidence that it is a consequence of radiotherapy, there are some cases of leukaemia that occurred about 15 years after treatment. Very rarely, there are some reports of leukaemia 2-3 years after treatment, but these are probably not a direct consequence of treatment.

Question: α vs β therapeutics: It seems that α-radiation is more efficient than β. If that's the case, why don't you go straight to α-therapy? GF replies that this question is difficult to answer, as the medical experience with β-therapy is much greater than with α-therapy, making it the first choice by default. Nevertheless, in his opinion, α-therapy is probably the future.

Question: PRISMAP vs clinical trials: Are there demands in the PRISMAP from academic centres for clinical trials? The prompt answer from TS was yes. Most of the requests are for preclinical work, but there are also requests for translational work from basic research to the clinic. The evidence for this is that 3 of the approximately 30 projects approved for PRISMAP support relate to clinical translation.

Question: How does ICNAS decide which isotopes to produce? To this question, FA answers that they work based on the needs and requests of roughly 1/3 chemists/researchers (established molecules they want to test with different radionuclides), 1/3 pharmaceutical companies (in line with their interests) and 1/3 specific clinical requests.

On the part of START, represented here by BD, the work is carried out entirely in accordance with the requirements of the pharmaceutical industry.

Question: How easy is it to conduct clinical trials in Portugal? (The questioner knows the Swiss regulations and said that it is very difficult there) BD replies that they work on the basis of protocols drawn up between Portugal and Spain and that there is always a need for accreditation, protocols, etc. Everything is regulated and must be followed. LC says that in Spain, they have been more advanced for 15 years because they have well-established protocols. In Portugal, each authorisation takes many years.

Question: What is the capability to production radionuclides in Portugal? According to FA, the ability to produce α-radionuclides in Portugal is rather low. It will depend on demand and logistics. Once there is a centralised network, Portugal will have the opportunity to participate. He further confirmed that generally the production of therapeutic radionuclides in Portugal depends on the radionuclide and the quantity needed.