Teleradiology & Telemedicine
FOCUS ON NUCLEAR MEDICINE

The European Association of Nuclear Medicine (EANM) recently held its annual congress in Lyon, France. HealthManagement caught up with EANM President, Professor Fred Verzijlbergen (FV), and Congress President 2013, Professor Dominique Le Guludec (DLG), to learn their thoughts on the congress, the role of the EANM and the direction of nuclear medicine.

What does the annual congress have to offer?

DLG: The annual congress is the most important event each year for our community, because it’s the only place where everybody meets. Everyone involved in the field of nuclear medicine – doctors, technologists, physicists, radiopharmacists, industry – all partners are there. There are plenty of sessions – scientific sessions, CME sessions, sessions for technologists, symposia and plenaries with very famous lecturers. There is also a big industry exhibition, and an opportunity to have fun. All CME sessions are online after the meeting, at http://eLearning.eanm.org/, so people who couldn’t come can also enjoy them. That’s important for our community.

FV: People come for the science. They want to learn about the newest ideas and innovations, but they also want to meet colleagues and to hear about their ideas on how to treat patients and how to perform diagnostic procedures. The focus is on education and innovation but also on an extent on meeting friends and having an enjoyable time together.

What were the highlights of EANM 2013 for you?

DLG: The increased number of abstracts submitted on PET. New tracers and radiopharmaceuticals are of huge importance, as is the use of bioimaging in the management of therapy in all fields, including oncology, cardiology and neurology.

FV: As President I don’t get much time to hear the presentations, so my highlights were meeting colleagues and friends, not only from EANM but also from other countries – the US, India, Japan – and planning for the future in relation to education, training and research.


This is the second time the congress has been in France, and the first time in Lyon. Please tell us about the state of nuclear medicine in France.

DLG: Nuclear medicine in France is quite a big specialty. We have 217 nuclear medicine departments, 468 gamma cameras, one-third of them equipped with CT, over 115 PET-CT machines and 31 cyclotrons, including four cyclotrons only for research. There is extensive research on bioimaging in France, with more than 80 groups and over 1000 people involved. During the past 12 years more than 15,000 papers have been published in imaging journals, with a quarter on nuclear medicine. Progress in the field is being fostered by France Life Imaging (FLI), a project to establish a coordinated network of in vivo biomedical imaging research throughout France (see http://fls.aviesan.fr). The increased number of abstracts submitted on PET. New tracers and radiopharmaceuticals are of huge importance, as is the use of bioimaging in the management of therapy in all fields, including oncology, cardiology and neurology.

FV: It emphasises better what nuclear medicine is doing. Many people are unclear about the nature of nuclear medicine – they have fantasies about it and think terrible things – but the term “biomedical imaging” emphasises that we are imaging a biological process. We are able to visualise what is happening in the body in healthy people, but also in people who are ill; if we can image that, we can also follow the process and visualise what’s happening during treatment. It gives us a lot of opportunities to really attract attention to the biological process in the body. This is very interesting because nowadays we are all focussing on personalised medicine in many ways, which means that we are trying to find medications and treatments which are dedicated to a specific situation for a person or a small number of patients with a particular disease. If you are able to focus on that, have the means to visualise that, then it makes you very strong.

Please tell us more about the EANM.

FV: The heart of the EANM is within training and education. We have a European School of Nuclear Medicine (ESNM) and organise training in Vienna, which includes all kinds of courses for physicians who want to be educated in nuclear medicine, together with radiation oncologists. In addition, we organise courses in Central and Eastern Europe. That is the main task of the EANM, to educate and train our young residents, as well as older medical specialists who want to improve in their work. We also have the scientific side of the EANM, with a lot of scientific committees working on different issues. Then there are organisational matters, including making ourselves visible to other organisations – that is more about the future.

What barriers have you encountered inside and outside the EANM?

FV: There are not so many barriers. There were issues in the last few years about collaboration with radiologists, and some authorities in Europe are not sufficiently aware of what nuclear medicine is doing, but beyond that there are no major obstacles. There are, however, some minor issues like radiation protection. We have to be very aware that we use a small amount of radiation and have to defend that. We have the knowledge and are able to demonstrate and defend what we are doing.

What are the recent developments in the relationship between nuclear medicine and radiology?

FV: We can collaborate with radiology. A younger generation is coming through which is more interested in education and cooperation, including finding the best ways of studying and imaging particular diseases. Things are definitely improving, and in the next few years there will be more collaboration.

What will be the next task you have to cope with after the congress?

FV: We need funding. The EU has granted more than €63 billion for research, and nuclear medicine needs a lot of money for research. We want to find partners for the research we want to perform – to find better radiopharmaceuticals and improve in the area of personalised medicine (see resEARch 4 Life http://earl.eanm.org). These partners could be from other clinical fields, for instance cardiology and oncology, but also from areas like radiation oncology and radiology. The choice of partner will vary depending on the issue we want to study.

What are the challenges for nuclear medicine in Europe outside the EANM?

FV: The most important one for me is making ourselves visible. The EU should know that if they discuss personalised medicine and biomedical imaging, they have to go to the EANM. It is not easy to ensure such visibility because most authorities are not aware of nuclear medicine, and we therefore have to go to the European committee, the Parliament, and find those bodies that are interested in this. This is a very important issue for next year.
What attracted you to nuclear medicine as a specialty?

DLG: I used to be a cardiologist. I moved to nuclear medicine because I thought it was really innovative and had a lot of new ideas and tools for healthcare. Nuclear medicine represents biology in vivo. That’s a tremendous field of improvement of healthcare. It has fulfilled all my expectations.

FV: I trained as a clinical doctor, in internal medicine. At the end of my training I started working in a department of nuclear medicine, for research. I added nuclear medicine training to my internal medicine training, and was able to work in a hospital where I could spend time as a specialist in internal medicine for one day a week and the rest of the time in nuclear medicine, as well as doing some scientific work. For me that was the ideal combination – see patients, do research and work in a laboratory facility. It’s an absolutely fascinating and always thrilling combination. It’s lived up to my expectations.

How important is it for healthcare management to be more efficient in regards to nuclear medicine?

DLG: Management is important in all fields of medicine. I am chief of a department and chief of a research group, so there’s a lot of management of human and financial resources and management to ensure compliance with laws. We have a lot of rules in nuclear medicine in relation to radiation protection, the use of radiation, the role of radiopharmacy and so on. A large part of our work is management, so it’s important to be efficient in the use of public resources.

FV: Nowadays, because of economic problems, resources for hospitals are decreasing everywhere in Europe. What you see is that doctors are performing diagnostic procedures in a more stringent way. They think twice before they ask the nuclear physician to perform the procedure. The result is that we perform fewer studies. In many situations that is good because we save money and limit radiation to the patient, but handling this situation is also a challenge for the hospital and the department of nuclear medicine. I think we are approaching a point where we are able to work very efficiently and save as much money as we can, while also improving the quality of procedures. That involves management at the hospital and the nuclear medicine department level. We have to spend a lot of time on that.

NEW EUROPEAN SOCIETY OF CARDIOLOGY (ESC) GUIDELINES ON THE MANAGEMENT OF STABLE CORONARY ARTERY DISEASE

As Director of Department of Cardiology and Pulmonology at Stuttgart’s Robert-Bosch-Krankenhaus in Germany, Prof. Dr. Udo Sechtem is one of the Chairpersons of the Task Force that developed the 2013 ESC Guidelines. HealthManagement spoke to him about the role of medical imaging in the diagnosis of stable coronary artery disease (CAD).

Professor Sechtem, what motivated the ESC to revise the guidelines previously in effect?

The ESC has the policy to revise guidelines every 4-6 years. Hence, the 2006 guidelines were up for revision. Of course, the field has moved forward considerably in the meantime and a lot of new publications needed incorporating.

It appears that ECG should no longer be the initial test of choice in the diagnosis of CAD. How important are the advancements made in medical imaging technology for these recommendations?

It is in fact the ECG itself with its suboptimal test properties which induced us to limit the role of the ECG in the current guidelines. Nevertheless, the ECG is still a good technique as long as the pretest probability of patients with suspected stable CAD is below 65%. The low sensitivity of about 50% of the exercise stress ECG makes testing at higher pretest probabilities, however, not useful. This is because at such high pretest probabilities the number of false negative tests will become unacceptably high. In contrast, all imaging techniques have a better sensitivity and are hence better especially for patients at pretest probabilities between 65 and 85%. Above a pretest probability of 85% all testing procedures in a more stringent way. They think twice before they ask the nuclear physician to perform the procedure. The result is that we perform fewer studies. In many situations that is good because we save money and limit radiation to the patient, but handling this situation is also a challenge for the hospital and the department of nuclear medicine. I think we are approaching a point where we are able to work very efficiently and save as much money as we can, while also improving the quality of procedures. That involves management at the hospital and the nuclear medicine department level. We have to spend a lot of time on that.

The new guidelines place an unprecedented emphasis on local expertise available in each health centre. Will this not be disadvantageous to those not equipped with the latest imaging systems?

It is not necessary to have the “latest imaging systems”. More important than the latest equipment is the local expertise which refers mainly to the interpretation skills of those performing the test. However, for coronary CTA a 64-line state-of-the-art CT is required.

The recommended revised diagnostic algorithm for diagnosing CAD is now relying on pretest probability. Why is this so significant?

Pretest probability has always had a role in choosing the right diagnostic tool. However, in the previous guidelines of the ESC this role was not as explicitly defined as it is now. Pretest probability as outlined already above when discussing the exercise stress ECG is important for optimal use of health...