Experience Feedback

ESMIT - Level 3

Quantification of myocardial perfusion on CZT camera

June 13 and 14, 2019

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I - What is ESMIT ?

ESMIT, for the European School of Multimoding Imaging and Therapy, corresponds to the educational branch of EANM (European Association of Nuclear Medicine). It was created in 2016 to respond to a growing demand for training in the field of nuclear imaging. Thanks to ESMIT, the EANM allows both students and expert doctors to deepen their knowledge of the various modality of nuclear imaging as well as the therapeutic applications of this discipline.

ESMIT is based on a three-level learning system :

- Level 1: This level is only available in e-learning, free on the EANM website and accessible to all. Level 1 covers the basics of ESMIT education, which is necessary for understanding the courses taught at higher levels.
- Level 2: This intermediate level foresees three events per year, one in winter, one in spring and one in autumn. Each event lasts three days and deals with four to five different topics; the courses are taught by medical doctors from all over Europe.
- Level 3: This is the most advanced level. Also, it is suitable for expert doctors in nuclear medicine who want to train on more targeted areas of their specialty. The majority of these courses are held at the EANM center in Vienna, Austria.

II - Level 3 ESMIT education in Caen

This event took place at the University Hospital of Caen on June 13 and 14, 2019, following the publication of the WATERDAY study by Professor Agostini and al in the "European Journal of Nuclear Medicine and Molecular Imaging" in 2018. This study aimed to demonstrate the possibility of quantifying myocardial perfusion on CZT cameras (D-SPECT) using 99mTc-Sestamibi. Also, they compared the results obtained with this innovative method, with those obtained by PET (Positron Emission Tomography), ^{15}o-water and those obtained by measuring the FFR (Fractional Flow Reserve), by coronary angiography.

Before this ESMIT event, a press release was done to mediatize this event because it was the first level 3 course on the quantification of myocardial perfusion on CZT cameras, in Caen as in Europe.

PRESS RELEASE

The EANM organise the first education of nuclear cardiology about quantification of myocardial perfusion on CZT cameras

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June 13 and 14, 2019, the university hospital of Caen receive 20 nuclear physicians experts in nuclear cardiology from all continents for the Level 3 education organised by the ESMIT (European School of Multimodality Imaging and Therapy). ESMIT is the educational branch of the EANM (European Association of Nuclear Medicine). This event is a world first since Professors Agostini (Caen), Manrique (Caen), Verberne (Amsterdam) and Hyafil (Paris) will give lectures and supervise practical workshops in the service of nuclear medicine to teach the quantification method of myocardial perfusion on CZT cameras.

CZT technology, which performs better than conventional scintigraphy techniques, allows for dynamic image acquisition, which permite a quantitative estimation of myocardial perfusion. This innovative method can detect and monitor coronary heart disease. In addition, CZT scintigraphy is faster, more comfortable and less radiating than pre-existing techniques. The university hospital of Caen is the only center in Europe to carry out this examination in routine, since 1 year now, following the study WATERDAY (Agostini D et al EJNMMI 2018).

During this event, four teachers were present to supervise the various workshops set up: Professors AGOSTINI and MANRIQUE from Caen, Professor VERBERNE from Amsterdam and Professor HYAFIL from Paris.

The 18 participants came from 15 different countries around the world to attend this teaching.

The two days of teaching began with an individual presentation of each physicians, followed by a series of 15 multiple-choice questions (MCQ) to assess participants' initial knowledge. Then followed the lectures of Professors Manrique and Hyafil.

Subsequently, each physician participating in the training received a packet containing a manual of the treatment station that allows to visualize and quantify the myocardial perfusion thanks to "Corridor 4DM", as well as slides of the five cases presented during these two days. The participants were then divided into three groups, on three consoles, in order to be mode comfortable with this technique of dynamic image reconstruction on CZT camera, before attending the conduct of a D-SPECT camera exam.

Then, all the participants attended the realization of two nuclear cardiology exams on CZT - CT 360 ° camera (VERITON), from Spectrum Dynamics, during which the imagery engineer of the Department of Nuclear Medicine, Djalil BOUTHIBA, presented all the characteristics of this camera.
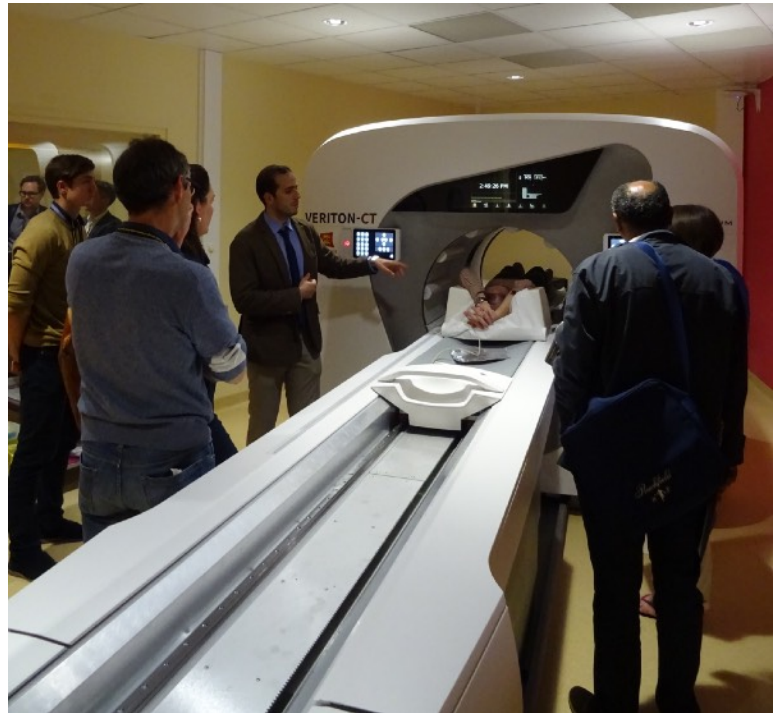
Finally, the second day ended with the same series of 15 multiple-choice questions as the first morning, to assess the impact of the training on the knowledge of all participants. Thus, this teaching was beneficial since participants went from 63.1% to 92.7% of correct answers, an increase of 29.6% of correct answers.