

Vienna, Austria

Annual Congress of the
European Association of Nuclear Medicine

October 21 –25, 2017
Vienna, Austria

Mini Course 2 (Technologists/Inflammation & Infection)

Sunday, October 22, 15:45-16:45

Session Title

Inflammation and Infection: Pitfalls & Artefacts

Chair

Christelle Terwinghe (Leuven)

Andor Glaudemans (Groningen)

Programme

15:45 - 16:15 Elena Lazzeri (Pisa): Pitfalls and Artefacts in Infection and Inflammation Imaging: Labelled Leukocytes

16:15 - 16:45 Andor Glaudemans (Groningen): Pitfalls in FDG-PET Imaging of Infection and Inflammation

Summary

For decades, molecular PET and SPECT imaging techniques have been used for diagnosing infectious and inflammatory disorders such as sarcoidosis, vasculitis, inflammatory bowel disease, rheumatoid arthritis, osteomyelitis. To perform those investigations, Gallium-67 citrate, technetium-99m HMPAO or indium-111 labeled leukocytes, and 18F-FDG are the most used radiopharmaceuticals. During the last years, FDG-PET imaging has emerged as a powerful tool in the diagnostic work-up of patients with inflammatory/infectious disorders for example in patients with fever of unknown origin.

It is important that the nuclear medicine specialist and the referring clinician choose the best imaging test and protocol for a particular indication which is of course a prerequisite for guiding subsequent therapy. They have to decide which radiopharmaceutical, acquisition protocol is best suited and when the examination has to be performed.

There is also an important role for the technologist who will perform the examination and process the images. For example, they can face some difficulties during labeling procedures such as problems to isolate leukocytes from the blood, suboptimal labeling efficiency etc.

Finally it is also important to have a standardized acquisition and post-processing protocol to avoid a misinterpretation of the exam.

Educational Objectives

- To give an overview of the different imaging protocols for a specific indication.
- To summarize the possible difficulties during labelling procedures for SPECT radiopharmaceuticals.
- To raise awareness of artefacts and pitfalls during image acquisition and processing.

Key Words

Infection, inflammation, pitfalls, artefacts.

Take Home Message

The use of a standardized protocol, performed by physicians and technologists, is of high importance in inflammation and infection investigation to result in a reliable diagnose.