



CTE Session 4

Technologists Committee / Oncology and Theranostics Committee

Monday, October 21, 09:45 - 11:15

Session Title

PET-CT Cancer Staging Management

Chairpersons

Agata Pietrzak (Poznan, Poland)

Martin Gotthardt (Nijmegen, Netherlands)

Programme

09:45 - 10:05 **Valentina Mautone** (Meldola, Italy): ¹⁸F-FDG PET-CT: method of choice in cancer staging – an overview

10:05 - 10:25 **Andrea Santos** (Lisbon, Portugal): Immune PET-CT imaging in oncology

10:25 - 10:45 **Rudolf Alexander Werner** (Frankfurt, Germany): ⁶⁸Ga-PentixaFor PET-CT: novel radiotracer for staging

10:45 - 11:15 Discussion (involving speakers and the audience)

Educational Objectives

1. Present the most important clinical indications of performing the ¹⁸F-FDG PET-CT in oncology.
2. Overview the role of the ¹⁸F-FDG PET-CT in cancer staging mentioning the most common cancer diseases.
3. Describe the possible ¹⁸F-FDG PET-CT acquisition protocols helpful in cancer staging.
4. Characterize the role of PET-CT imaging in immune-related oncologic diseases' staging, focusing on the qualification for immunotherapy.
5. Present the role of the PET-CT method in immune-checkpoint inhibitor therapy.
6. List PET-dedicated radiopharmaceuticals useful for immune-related oncologic diseases.
7. Present the current state of knowledge in regards of using ⁶⁸Ga-PentixaFor PET-CT in clinical practice.
8. Specify the utilities of ⁶⁸Ga-PentixaFor PET-CT in cancer staging.
9. Mention the most relevant indications to perform ⁶⁸Ga-PentixaFor PET-CT and its future perspectives.

Summary

The PET-CT technique as a molecular method of imaging became an inevitable element of the cancer patients management. One of the most commonly described PET-CT utility is staging of the disease. The sensitivity and the specificity of the PET-CT study in cancer staging depends both on the primary disease and the choice of the radiotracer. One of the most commonly performed study in oncology remains the ¹⁸F-FDG PET-CT scanning. It is considered a method of choice i.e. in the head and neck cancer detection, staging and therapy planning. Although, it is a valuable study that can be improved by the acquisition protocol modification (eg., dual-time-point studies), there are some limitations associated with its performance and outcomes. Nuclear medicine drug development offers a possibility to use more specific, novel radiotracers in order to maximize the sensitivity and the specificity of the PET-CT method in a variety of oncologic diseases' evaluation, including immune-related mechanism of the tumour's growth.



The rapid immunotherapy development demands advanced imaging which can be provided by implementing PET-CT scanning in the patients' management. During this session, the basic and advanced PET-CT method applications in the cancer diseases' staging are going to be presented with the special focus on the interactive discussion involving both the experienced professionals in the field and the audience.

Key Words

Cancer; computed tomography; hybrid imaging; immunotherapy; nuclear medicine; oncology; positron emission tomography; staging