Nathalie Albert

Germany

Nathalie Albert is a senior physician and full professor for nuclear medicine at the LMU Munich, Germany. Her research focusses on PET imaging and theranostics of brain tumors. Dr. Albert leads national and international guidelines for the use of PET and radioligand therapies in brain tumor patients. She has recently published the PET RANO 1.0 criteria for standardized response assessment based on amino acid PET imaging in patients with diffuse glioma. She serves as chair of the Nuclear Medicine Committee of the EORTC Brain Tumour Group and is currently preparing the first prospective randomized multicenter trial using radioligand therapy in Neuro-Oncology. Her work has been recognized by numerous research awards. In addition to her academic work, she is actively involved in promoting women and is the founder of FEMclub, a professional network for Female Excellence in Medicine.

Topic: Clinical Use of PET Imaging in Glioblastoma

Glioblastoma is the most common malignant primary brain tumor of adults and associated with high morbidity and poor prognosis. Disease monitoring relies on MRI-based follow-up, and RANO response criteria have been established and recently updated for response evaluation of diffuse gliomas. However, in addition, PET-based imaging utilizing amino acid tracers is increasingly considered for disease monitoring in clinical practice and clinical trials. Recently, PET RANO 1.0, a set of criteria for response assessment based on amino acid PET imaging in patients with diffuse gliomas, were published and will facilitate implementation of molecular imaging into clinical trials and routine clinical practice. This lecture will discuss clinical applications and future developments of PET imaging for diffuse gliomas with a focus on glioblastoma.

Topic: PET Imaging in Patients with Brain Metastases

Brain metastases occur in up to 50% of patients with advanced cancers, especially in breast cancer HER2+, triple-negative), lung cancer, and melanoma. Established treatment options for brain metastases include neurosurgical resection, radiotherapy (whole-brain radiotherapy, stereotactic radiosurgery), and, increasingly, systemic pharmacotherapy with immunotherapies and targeted agents. So far, disease evaluation and monitoring of brain metastases is based mainly on magnetic resonance imaging (MRI). Positron emission tomography (PET) allows visualization of metabolic features and molecular aberrations and may offer valuable information for differential diagnosis, therapy planning and research on CNS metastases. This lecture

will discuss opportunities and challenges of utilizing PET imaging with various tracers and will provide an outlook on potential developments in the field of theranostics in patients with brain metastases.