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PET IMAGING OF PROTEINOPATHIES IN NEURODEGENERATIVE DISEASE

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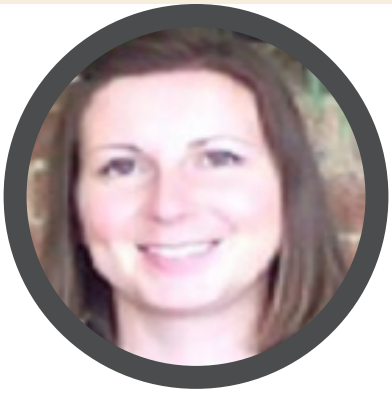
There has been a significant growth in the number of nuclear medicine procedures in the USA, mostly because of the significant advances in radiopharmaceuticals, instrumentation, and data analysis. Newer radiopharmaceuticals such as ^{68}Ga dota-tate (NETSPOT) can be used with PET/CT imaging to locate neuroendocrine tumors. Localizing NETs can then lead to the use of peptide receptor radionuclide therapy such as ^{177}Lu. The development of these newer radiopharmaceuticals builds upon each other to offer patients highly specific targeted imaging and molecular radiotherapy. Hybrid modalities such as SPECT/CT, PET/CT and PET/MRI are gaining popularity because of their ability to combine anatomical information from CT and MRI with functional, metabolic, or physiologic information provided by molecular imaging. The development of powerful computing algorithms has allowed scientists to extract pathophysiological information from images from different modalities, based on quantitative qualities such as texture, intensity, volume, size and shape. Radiomics is a giant step in the direction of personalized medicine as it provides means to accurately detect and diagnose tumors and assist with the choice of therapeutic strategy. Artificial Intelligence has also been employed in assisting radiologists with image interpretation by highlighting suspicious areas in the image.



Biography

Pavlina Pike has completed her PhD from the University of Tennessee in 2005. She has completed her Postdoctoral studies in Medical Physics from the University of Alabama in Birmingham in 2011. In 2013, she was certified by the American Board of Radiology in Diagnostic Imaging. She is currently employed as a Medical Physicist at the Huntsville Hospital Health System in Huntsville, Alabama.

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