Positron Emission Tomography Imaging In Multiple Sclerosis

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Positron Emission Tomography (PET) is a non-invasive technique for quantitative imaging of biochemical and physiological processes in animals and humans. PET uses probes labeled with a radioactive isotope, called PET tracers, which can bind to or be converted by a specific biological target and thus can be applied to detect and monitor different aspects of diseases. PET is a powerful in vivo functional imaging tool for investigating healthy and diseased brain. It provides noninvasive quantification of complex central nervous system disorders such as multiple sclerosis (MS). PET in MS could be used for the investigation of underlying pathophysiology of neuroinflammation, neuronal dysfunction, and demyelination, and remyelination. Quantitative measures of molecular targets with PET could also have future uses in clinical trials of drug development and recent development of new radiolabelled ligands provides positron emission tomography (PET) imaging with a role for studying early aspects of the MS pathology. So In this review, we summarize the PET imaging studies and new radiopharmaceutical performed in multiple sclerosis up to now .

Keywords: MS , Imaging, PET, Radiopharmaceutical