Abstract:

The first fully integrated combined positron emission tomography-magnetic resonance imaging (PET-MRI) scanners have been clinically available since 2010. Large prospective studies regarding indications and diagnostic accuracy of this new modality are not yet available; however, preliminary studies have shown a higher diagnostic accuracy and confidence compared to PET-computed tomography (PET-CT) in regions where MRI is known to be superior to CT, such as the liver. The benefit of MRI in accurate lesion characterization and the additional value of diffusion-weighted imaging (DWI) as a complementary functional modality by means of the apparent diffusion coefficient (ADC) is apparent in entities with low tracer uptake (e.g. due to small size) and a decreased or absent accumulation pattern on PET.