In this review article, conventional brain MRI and advanced MRI techniques in Parkinson’s disease (PD) are discussed, with emphasis on clinical relevance. Conventional brain MRI sequences generally demonstrate limited abnormalities specific for PD and in clinical practice brain MRI is mainly used to exclude other pathology. Possibly, brain MRI at higher magnetic field strengths could provide new diagnostic markers. In recent years, new imaging techniques such as susceptibility weighted imaging (SWI), diffusion (tensor) MRI, magnetization transfer imaging (MTI), and functional MRI (f-MRI) have been applied to patient cohorts with PD to improve understanding of pathophysiologic changes.
Since its technical development in the early 1980s, magnetic resonance imaging (MRI) has quickly been adopted as an essential tool in supporting the diagnosis, longitudinal monitoring, evaluation of therapeutic response, and scientific investigations in multiple sclerosis (MS). The clinical usage of MRI has increased in parallel with technical innovations in the technique itself; the widespread adoption of clinically routine MRI at 1.5T has allowed sensitive qualitative and quantitative assessments of macroscopic central nervous system (CNS) inflammatory demyelinating lesions and tissue atrophy. However, conventional MRI lacks specificity for the underlying MS pathology.
MRI examinations were performed at baseline and every 6 weeks until week 24, and subsequently every 3 months. Specifically, imaging with the standardized imaging protocol was aligned with the consensus recommendations for a standardized brain tumour imaging protocol in clinical trials and included pre- and postcontrast T1-weighted, T2-weighted, and FLAIR images. In addition, optional dynamic susceptibility contrast (DSC) MRI was performed at the discretion of the individual institution. Sequence parameters are listed in Appendix E1.
Quesiti

Protocolli: Protocollo di studio dell'epilessia

Ricerca / sequenze: Paradigmi di studio fMRI

Prova Inglese

Using MRI as a tool, investigators have made progress recently in understanding the substrate and mechanisms underlying the development and evolution of focal lesions and diffuse damage in MS. The application of refined MRI sequences has markedly improved the characterization of focal lesions, in particular cortical lesions. Promising improvements have been made to clarify the pathological specificity and sensitivity of MRI techniques by performing combined histopathologic-MRI correlation studies. The use of high-field (3 T) and ultra-high-field (UHF; >3 T) MRI has further facilitated the detection of both gray matter and white matter microstructural damage.

Prova Informatica

Inserire un 'text box' in un file Word con del breve testo tratto da internet.
Quesiti

Protocolli: Protocollo di studio dei tumori cerebrali

Ricerca / sequenze: Principi di Spettroscopia-RM del cervello

Prova Inglese

In this study, we assessed brain iron level in a large clinical cohort of participants with Alzheimer's Disease (AD) by using R2* relaxation rate mapping with an advanced correction method that also allowed for R2* calculation in neocortical regions. We compared global and regional iron differences between patients with AD and age-matched healthy control participants, evaluated longitudinal R2* changes in participants with AD during a 17-month follow-up period, and determined the association of cross-sectional and longitudinal iron data with cognitive decline.

Prova Informatica

Dopo aver copiato ed incollato da internet un breve testo su un file Word, cambiare lo stile dei caratteri, la grandezza dei caratteri e la spaziatura dei paragrafi.
Quesiti

Protocolli: Protocollo RM di studio dell'encefalo fetale

Ricerca / sequenze: Imaging di suscettibilità SWI nel cervello

Prova Inglese

MRI is a valuable clinical and research tool for patients undergoing deep brain stimulation (DBS). However, risks associated with imaging DBS devices have led to stringent regulations, limiting the clinical and research utility of MRI in these patients. The main risks in patients with DBS devices undergoing MRI are heating at the electrode tips, induced currents, implantable pulse generator dysfunction, and mechanical forces. Phantom model studies indicate that electrode tip heating remains the most serious risk for modern DBS devices.

Prova Informatica

Effettuare il prodotto (moltiplicazione) di valori numerici presenti in tre celle contigue in Excel.
Quesiti

Protocolli: Protocollo di studio della Sclerosi Multipla

Ricerca / sequenze: Principi dell'Arterial Spin Labelling

Prova Inglese

MRI is a suitable technique for non-invasive imaging and quantification of muscular fat infiltration and muscle cross-sectional area in individual muscles. Studying individual muscles is important because the amount of fat infiltration varies widely between muscles. In addition, MRI allows quantification of changes in tissue water distribution based on the muscle water T2 (T2_{water}). Increased T2_{water} is thought to reflect intracellular or extracellular oedema, an early pathophysiological event in muscular dystrophies.

Prova Informatica

Effettuare una somma di valori numerici presenti in cinque celle contiguous in Excel.

NON SOTTOSEGNIATA
Quesiti

Protocolli: Vantaggi e svantaggi del 3T vs 1.5T

Ricerca / sequenze: La perfusione cerebrale con mezzo di contrasto

Prova Inglese

Brain MRI was performed in 27 of 50 patients (54%) with neurologic symptoms. The median age of patients who underwent MRI was 63 years (range, 34–87 years; 21 men). Twelve of 27 patients who underwent MRI had acute findings. In 10 of 27 patients, cortical fluid-attenuated inversion recovery MRI scans showed signal intensity abnormality. Accompanying subcortical and deep white matter signal intensity abnormality on fluid-attenuated inversion recovery images was seen in three patients.

Prova Informatica

Effettuare una media aritmetica di valori numerici presenti in più celle contigue in Excel.

NON SORTEGGIATA