

Abstract :

MRI is the best modality for diagnosis of rare brain diseases. MR spectroscopy is useful method for differentiation among the rare metabolic disorders. Some metabolites in brain lesion are detected and measured by mean curves.

One of the base column diagnosis in rare cerebral metabolic disease is MR spectroscopy. The newest version of MRI is MRS through detection of the fine spectrogram and draw of mean curve of amount of known metabolites in metabolic lesion could be recognized as a type of metabolic lesion. After standard T1 and T2 axial protocols , spect and curves of many main metabolites are processed as:

NAA (N acetyl aspartate), Cr (Creatine), CHO (Choline), MI (Myoinositole), LAC (Lactate), Lipids.

The other specific metabolites are alanine, glutamine, glucose, ketone and manitole. Withdrawing the metabolite curves within brain lesion and comparing with the normal cerebral hemisphere, we reached the amount and detection of metabolites. The injection of Gadovist 7.5cc via intravenous and the patient is pre-operative fasting and it takes one hour. Creatine, lactate, alanine and many metabolic rare cerebral disease are diagnosed and differentiated MR spectroscopy via checking the metabolite, accordingly.

Spectrogram are inserted in the square of lesion and exactly in contra lateral of cerebral hemisphere confirmed via the comparison of metabolic data as well as the calculation of metabolite unit.

The common disease among the rare cerebral groups are : Huntington ,Wilson , Niemanpics MPS, Galactosemia,PKU,HUS,canavan and Acedemia , creutzfeldt Jacob-Pick-PMC, MR specs protocols (T2 axial–single shot),T1 axial(+/- contrast), Spectra in T2 axial performed and pure measurement increase of metabolite and fraction of NAA/Cr ,cholin/cr and cho/NAA in creutzfeld–Jacob disease,NAA,NAA/cr choline,cho/cr myo Inositol ,MI/Cr are increased

Biography :

Dr. Hamid Reza Edraki was graduated in Neuro-radiology (MRI) from LMU University (Munich-Germany). At the time being, he is associate professor at Shahid Beheshti Medical University in Iran and Managing Director at Rare Diseases Foundation of Iran and the Chief Radiologist at RADOIR 's Parsian Medical Center. Dr. Edraki has achieved many outstanding academic screening researches on rare diseases and its types in their broad aspects.

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