

M/4 HOW DO INDIRECT SIGNS OF TRAUMATIC DIFFUSE AXONAL INJURY CORRELATE WITH THE ACTUAL AXONAL INTEGRITY?

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Aims: Susceptibility weighted (SWI) MRI is presently the most sensitive method to detect microhemorrhage related to DAI. However, the development of microhemorrhage is not certain and its clinical relevance is yet unclear. To accomplish our objective diffusion tensor imaging (DTI) was applied, which is a reliable technique to quantify axonal condition, but presently is not a feasible clinical tool.

Methods: 20 healthy and 38 traumatic brain injured patients (GCS 15-3) underwent T1, T2, FLAIR, DTI and SWI MR imaging. For a precise assessment, coregistration (FSL FMRIB) of the different modalities, and classification of the patients into groups as "microhemorrhagic", "non-microhemorrhagic" lesioned and "MRI negative" was performed. Then, DTI parameters as fractional anisotropy (FA) and mean diffusivity (MD) of predilection regions of DAI (corpus callosum, corona radiata and the brainstem) were measured in each group. Comparison of the FA and MD values among groups by ANOVA and examination of the correlation between the number of lesions and the DTI parameters via Spearman correlation was performed.

Results: FA values of the corona radiata in "microhemorrhagic" and "non-microhemorrhagic" groups differed significantly from the values measured in MRI negative TBI and healthy patient groups ($p=0,003$) and a strong correlation was found between the diffusion parameters and the summed amount of "hemorrhagic" and "non-hemorrhagic" lesions ($p=0,0016$; $\rho=-0,49$). There was no significant difference of FA and MD values between the "microhemorrhagic" and "non-microhemorrhagic" groups ($p=0,1149$).

Conclusions: Our study highlights that both the "microhemorrhagic" and the "non-microhemorrhagic" forms of DAI represent a poorer white matter condition, but the FA values in the two forms do not differ significantly. White matter damage rate can be estimated the best by taking both forms into account.

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M/5 INDEPENDENT COMPONENT ANALYSIS INCREASE THE RELIABILITY OF FUNCTIONAL MRI IN ELOQUENT BRAIN TUMOR PATIENTS

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No abstract available.

M/6 EFFECTS OF PITUITARY ADENYLATE-CYCLASE ACTIVATING POLYPEPTIDE AND RADIATION ON BREAST CANCER CELL LINES

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