Magnetic resonance imaging for Mild traumatic brain injury

Magnetic resonance imaging will demonstrate abnormalities in up to 25% of cases where CT is normal.

DTI has been proved to be a valuable tool to identify diffuse axonal injury (DAI) after mTBI. Additionally, some studies showed associations between DAI and unfavourable cognitive outcome. SWI has shown to be a highly sensitive imaging method to identify microbleeds. The presence and quantity of microbleeds in this imaging technique can further provide aetiological evidence for persistent post-traumatic symptoms (pPTS).

Magnetic resonance spectroscopy (MRS) provides information about local neurons metabolism and preliminary data show that creatine-phosphocreatine levels measured after mTBI are predictive of cognitive outcome and emotional distress. The results of one study have shown functional magnetic resonance imaging (fMRI) as a useful tool to differentiate mTBI patients with pPTS from controls and mTBI patients without pPTS in a resting-state condition. From the evaluated diagnostic approaches to predict pPTS after mTBI, DTI, SWI, MRS, and fMRI seem to have adequate sensitivity and specificity as predictive diagnostic tools for pPTS. Large longitudinal clinical trials are warranted to validate the prognostic applicability and practicability in daily clinical practice [1) 2)].

Diffusion tensor imaging

Diffusion tensor imaging for mild traumatic brain injury.

1)
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2)
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