

REVERSIBLE DWI CHANGES IN AN ACUTE STAGE FOLLOWING HYPOXIC OR ISCHEMIC BRAIN INSULT

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Regions with an early DWI change following cerebral ischemia usually end in permanent cerebral infarction. However, we recently experienced two cases in which high intensity areas (HIAs) on DWI in an acute stage disappeared and remarkable neurological recoveries followed.

An 84-year-old male suffered from suffocation due to a large larynx tumor. He fell in coma and 10 minutes passed until the ventilation became possible. DWI taken 3.5 hours later showed a HIA in the left temporo-occipital cortex. He fully recovered 24 hours later. In DWI taken 9 days later, the former abnormal lesion disappeared. In MRA, a marked narrowing in one M2 branch was found.

A 66-year-old male showed left-sided hemiplegia immediately after a coronal artery bypass surgery. In DWI three day later showed multiple HIAs in the right MCA territory. Edaravone was administered intravenously for two weeks, and his hemiplegia almost recovered within 2 months. In DWI taken 11 days after the operation, the former abnormalities including a large frontal cortex lesion became unremarkable except for a small HIA at the left internal capsule. In T2-weighted images, only the internal capsule finding was detected. In MRA, a narrowing in the right M1 was revealed.

Discussion: In two cases, the stenosis in responsible MCA, which may suggest the underlying presence of subclinical decrease of regional cerebral blood flow, is common. Moreover, their insults had been neither thrombotic nor embolic. The early DWI changes under these particular conditions may not necessary be a predictor of irreversible brain damage.