

# **Role of diffusion tensor imaging in a patient with spontaneous intracerebral hematoma treated by stereotactic evacuation**

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摘要

## **Abstract**

Background: Diffusion tensor imaging is a newly developed technique used to visualize the white matter fibers in the human brain. In previous reports, DTI has been applied in patients with neoplasms, lacunar infarction, ischemic stroke, degenerative motor disease, and diffuse axonal injury, and has become a powerful tool in predicting clinical outcome. However, the implementation of DTI in patients with spontaneous ICH treated by stereotactic evaluation of hematoma has never been reported. Case Description: The authors describe a case of a well-predicted outcome of DTI in a 37-year-old right-handed man who presented with sudden onset of vomiting and weakness of right extremities 2 hours before admission. Computed tomographic head scan revealed 1 hyperdense hematoma measuring about 3.9 x 2.2 x 2.6 cm (about 15 mL in volume) located in the left putamen, compressing the posterior limb of left internal capsule. Preoperative DTI revealed that white matter tracts were compressed by the hematomas. After the patient underwent stereotactic evacuation of hematoma, good recovery of muscle power was noted in the right extremities. Postoperative DTI revealed the restoration of white matter tracts. Conclusion: Diffuse tensor imaging is a useful tool for the visualization of white matter tracts, especially the corticospinal tract, which regulates motor function in human beings. In patients with ICH treated by stereotactic aspiration of hematomas, clinical outcome could be more precisely predicted by preoperative DTI.