

Obstructive hydrocephalus

Obstructive [hydrocephalus](#) results from problems in the circulation and reabsorption of [cerebrospinal fluid](#) CSF.

Epidemiology

While [obstructive hydrocephalus](#) is a relatively common and potentially life-threatening condition, [transient obstructive hydrocephalus](#) is a rare condition in adults.

Etiology

[Obstructive hydrocephalus Etiology](#).

Treatment

see [Hydrocephalus treatment](#)

Case series

Twenty-one patients with obstructive hydrocephalus were evaluated with MR diffusion imaging before and after treatment. The change in ventricular size was measured by using the frontal and occipital horn ratio. The signal intensity abnormalities in periventricular white matter were scored. Average diffusion constants (D(av)) in the periventricular white matter were measured before and after treatment and compared with normal values. Post-treatment resolution of MR imaging abnormalities and changes in ventricular volume were compared with changes in D(av).

D(av) measured from periventricular white matter was increased in hydrocephalic patients compared with age-matched control subjects by a mean of 6.9% ($P < .02$). After treatment, D(av) decreased by an average of 6.0%: D(av) decreased in 11 patients (53%), it remained essentially unchanged in seven (33%), and it increased in three (14%).

For patients with obstructive hydrocephalus, diffusion is usually increased in the periventricular white matter. Therefore, increased D(av) may be a clinically useful sign of hydrocephalus, and it may prove useful in cases with equivocal clinical or imaging findings. Measurement of D(av) may be valuable in assessing the treatment response in these patients because D(av) usually decreases toward normal levels with successful treatment ¹⁾.

¹⁾

Uluğ AM, Truong TN, Filippi CG, Chun T, Lee JK, Yang C, Souweidane MM, Zimmerman RD. Diffusion imaging in obstructive hydrocephalus. *AJNR Am J Neuroradiol*. 2003 Jun-Jul;24(6):1171-6. PubMed PMID: 12812949.

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