49th ANNUAL DIAGNOSTIC SLIDE SESSION, 2008
DIAGNOSES AND REFERENCES

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Case 2008-1

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Diagnosis: Vanishing white matter (VWM) disease

Comment: As mentioned in the protocol, grossly there was massive cystic degeneration of the white matter (see below). This condition often has clinical onset following head trauma, as in this patient. Oligodendroglial cells appear to be increased in the white matter in some regions, while in other areas oligos are lost because of apoptosis. In answer to a question, the Presenter reported that the patient's ovaries were normal at autopsy.

From the Presenter: Genetic studies revealed that this patient was compound heterozygous for two mutations in the gene EIF2B5: 338G>A mutation leading to the substitution of arginine for histidine in eIF2B at position 113 (R113H), and 1015C>T mutation leading to the substitution of arginine for tryptophan in eIF2B at position 339 (R339W). Both mutations have been described many times in other VWM patients. Two-thirds of VWM patients have mutations in EIF2B5. The R113H mutation occurs in approximately 40% of all VWM patients and has been correlated with adult onset and milder clinical manifestation with slower rate of progression of disease. Two cases of R113H/R339W compound heterozygous mutations in VWM patients have been reported previously.

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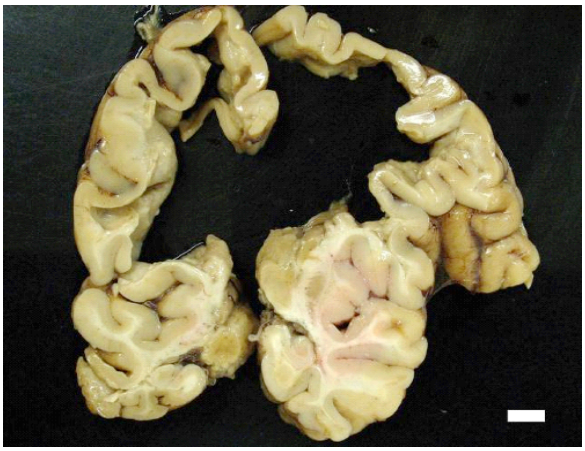

Gross photograph of the brain at autopsy (Case 2008-1).