Supplementary Table. Clinical and radiological characteristics of adult-onset leukoencephalopathies1 compared with present patient.

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| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Hereditary diffuse leukoencephalopathy with spheroids (HDLS) | Progressive leukodystrophy with ovarian failure (LKENP) | Leukoencephalopathy with vanishing white matter(VWMD) | Globoid cell leukodystrophy(GLD; Krabbe disease) | Metachromatic leukodystrophy(MLD) | X-linked adrenoleukodystrophy(X-ALD) | Present patient |
| Gene(s) | *CSF1R* | *AARS2* | *EIF2B1-5* | *GALC* | *ARSA* | *ABCD1* | *LAMB1* |
| Inheritance | AD | AR | AR | AR | AR | XR | AR |
| Biochemical findings | - | - | - | Galactocerebrosidase deficiency in leukocytes or fibroblasts | Decreased arylsulfatase A activity, elevated urinary sulfatides | Elevated saturated very long chain fatty acid in serum | - |
| Clinical findings |  |  |  |  |  |  |
| Neurological symptoms | Cognitive and psychiatric disturbances, spastic-ataxic gait, seizures, bladder dysfunction | Ataxia, spasticity, cognitive decline | Spastic paraparesis, psychiatric symptoms, ataxia | Spastic tetraparesis, ataxia, polyneuropathy, cognitive impairment | Psychosis, cognitive decline, polyneuropathy | Behavioral changes, psychosis | Intellectual disability, spastic gait |
| Extraneurological symptoms | - | Ovarian dysfunction | Optic nerve atrophy, ovarian dysfunction | Optic nerve atrophy | Optic nerve atrophy, gallbladder dysfunction | Optic nerve atrophy | Retinal vascular abnormality, ovarian dysfunction |
| MRI findings |  |  |  |  |  |  |
| Diffuse cerebral | - | - | + | - | + | - | + |
| Periventricularpredominance | - | - | - | + | + | - | + |
| Asymmetric lesions | + | - | + | - | - | - | - |
| Cerebellum and/or middle cerebellar peduncles | - | + | - | - | - | + | - |
| Frontal predominance | + | - | - | - | + | + | - |
| Parieto-occipital predominance | - | - | - | + | - | + | - |
| Multifocal lesions | + | - | - | - | - | - | - |
| Cystic lesions | - | - | + | - | - | - | - |
| Contrast enhancement | - | + | - | - | - | - | - |
| Corpus callosum thinning  | + | + | + | - | - | - | - |
| Long-tract involvement | - | + | - | + | - | - | - |

AD, autosomal dominant; AR, autosomal recessive; XR, X-linked recessive.

Supplementary Figure. Brain MRI of the present patient at age 40.



Periventricular rims with high signal on T1-weighted image (A) and low signal on T2-weighted image (B) are shown (white arrows). These findings have been reported in the patients with infantile- and juvenile-onset Alexander disease.2

**Supplementary References**

1. Kohler W, Curiel J, Vanderver A. Adulthood leukodystrophies. Nat Rev Neurol 2018;14:94-105.
2. van der Knaap MS, Naidu S, Breiter SN, et al. Alexander disease: diagnosis with MR imaging. AJNR Am J Neuroradiol 2001;22:541-552.