

Demyelinating	Acute disseminated encephalomyelitis (ADEM) Balo's concentric sclerosis Multiple sclerosis (MS) Neuromyelitis optica spectrum disorder (NMOSD)
Genetic	Aminoacidurias Fragile X-associated tremor/ataxia syndrome (FXTAS) Leukodystrophies Mitochondrial encephalopathy with lactic acid and stroke (MELAS) Mucopolysaccharidoses Neurocutaneous syndromes
Infectious	Herpetic encephalitis (e.g. HSV, VZV, CMV) HIV associated dementia (HAD) Neurosyphilis Progressive multifocal leukoencephalopathy (PML) Tick-borne encephalitis (e.g. Lyme)
Inflammatory	Behçet's disease Giant cell arteritis (GCA) Granulomatosis with polyangiitis Neurosarcoidosis Polyarteritis nodosa Primary angiitis of the central nervous system Sjögren's syndrome Systemic sclerosis Systemic lupus erythematosus
Metabolic	Cobalamin deficiency Folate deficiency High-altitude cerebral edema (HACE) Hypoxic ischemic encephalopathy (HIE) Thiamine deficiency
Neoplastic	Central nervous system lymphoma Gliomas Intravascular lymphoma
Toxic	Drugs of abuse (e.g. cocaine, heroin, nitrous oxide, toluene) Chemotherapy (e.g. methotrexate, 5-fluorouracil, cyclophosphamide) Environmental exposures (e.g. carbon monoxide, lead, pesticides) Marchiafava–Bignami disease Metronidazole-induced leukoencephalopathy Radiation exposure
Vascular	Cerebral amyloid angiopathy (CAA) Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) Posterior reversible encephalopathy syndrome (PRES) Small vessel ischemic disease Strokes
Other	Migraines Normal pressure hydrocephalus (NPH) Trauma (e.g. diffuse axonal injury) Nonspecific white matter lesions

Table e-1: Non-exhaustive differential diagnosis of cerebral white matter lesions (adapted from Schmahmann *et al.*, 2008)