

Spastic paraplegia 50 (SPG50) is a slowly-progressing neurodegenerative disorder that generally presents with global developmental delay, moderate to severe intellectual disability, impaired/absent speech, small head size (microcephaly), seizures, and progressive motor symptoms. Hypotonia (low-muscle tone) develops into hypertonia (high-muscle tone), resulting in spasticity of the legs that leads to non-ambulation and wheelchair reliance. Spasticity may progress to the upper extremities, leading to the partial or total loss of use of all four limbs and torso (tetraplegia). AP-4-associated hereditary spastic paraplegia (HSP) is a group of slowly-progressing neurodegenerative disorders that generally present with global developmental delay, moderate to severe intellectual disability, impaired/absent speech, microcephaly, seizures, and progressive motor symptoms. The conditions included in this group are SPG47, SPG50, SPG51 and SPG52 and all have similar symptoms. These conditions are inherited in an autosomal recessive pattern and are caused by mutations in genes that result in production of an abnormal adaptor protein complex 4. Since many of the initial clinical manifestations of SPG50 are nonspecific and may resemble other disorders characterized by spasticity, developmental delay / intellectual disability, and seizures, the diagnosis is often only made after further diagnostic testing. This may include a brain MRI showing characteristic features such as a thin corpus callosum, wide lateral ventricles and changes in the white matter. A definitive diagnosis is reached by genetic testing.