## Supplementary Table 1. The stage of our case comparing with reported staged of ALSP and N-HD by Oyanagi et al.’s paper [13]

<table>
<thead>
<tr>
<th>Stage</th>
<th>ALSP</th>
<th>Nasu-Hakola disease</th>
<th>Our case</th>
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</table>
| I     | - Patchy loss of myelinated fibers in the cerebral WM  
      | - No remarkable cerebral atrophy | - Not evaluable |
| II    | - Patchy loss of large areas of myelinated fibers in the cerebral WM  
      | - Slight cerebral atrophy  
      | - Slight dilation of the lateral and third ventricles. | - Slight atrophy and irregular patches of myelinated fiber loss in the frontal, temporal and parietal WM, centrum semiovale and corpus callosum  
      | - Moderate dilatation of the lateral ventricles |
| III   | - Extensive degeneration of the cerebral WM, including the corpus callosum, internal capsule and some parts of U-fibers  
      | - Atrophy of the thalamus  
      | - Moderate dilatation of the lateral and third ventricles | - Moderate atrophy and loss of myelinated fibers of the frontal, temporal, parietal and occipital WM, centrum semiovale and corpus callosum  
      | - Atrophic temporal cortex and hippocampus  
      | - Severe deterioration of the thalamus, hippocampus and parahippocampal gyrus with loss of neurons |
| IV    | - Cerebral WM devastation  
      | - Marked atrophy in the frontal WM, centrum semiovale, temporal WM, corpus callosum and thalamus  
      | - Severe dilatation of the lateral ventricles  
      | - Severe degeneration of the cerebellar WM and myelinated fibers in the pontine base  
      | - Thinning of the cerebral cortex.  
      | - Relatively good preservation of the hippocampus | - Marked atrophy and loss of axons in the frontal and temporal WM, centrum semiovale and corpus callosum  
      | - Severe dilatation of the lateral ventricle  
      | - Deterioration of the thalamus, hippocampus and parahippocampal gyrus  
      | - Degeneration of the cerebellar WM, especially posteriorly  
      | - Relative preservation of the internal capsule, optic tract, pontine base and superior cerebellar peduncles | - Extensive atrophy & loss of the cerebral WM including the corpus callosum and thalamus, but relatively preserved WM of occipital lobe and most U-fibers.  
      | - Severe dilatation of lateral and third ventricle  
      | - Degeneration of basis pontis and corticospinal tract of spinal cord.  
      | - Mild involvement of cerebellum with mild thinning of cerebral cortex  
      | - Compatible with ALSP, grade IV |

ALSP, adult onset leukoencephalopathy with axonal spheroids and pigmented glia; WM, white matter.