

Appendix IV From Prevent Alzheimer's Autism and Stroke by Dennis N Crouse

Cerebral Amyloid Angiopathy

Cerebral amyloid angiopathy (CAA, a.k.a. congophilic angiopathy) is a disease in which A β peptide deposits form on the walls of blood vessels of the central nervous system (CNS) resulting in a hemorrhagic stroke usually confined to a particular lobe of the brain. This is the same A β peptide associated with Alzheimer's disease. Therefore these hemorrhages are usually more common in cases of AD. In fact CAA of variable extent is almost always found in cases of AD.

A woman living in the Camelford area of Cornwall England was exposed to high levels of alum in her drinking water in July of 1988 and died 15 years later at age 58 due to a rapidly progressing, fatal dementing illness. The aluminum concentration in her drinking water was 500 to 3,000 times higher than the maximum acceptable limit (e.g. 200mcg/L) under EU legislation. An autopsy showed dramatic A β peptide deposition in the cerebral cortical arterioles and capillaries in all the main lobes⁴¹⁵. Only a few NFTs were observed in the transentorhinal and periamygdaloid cortex and hippocampus. The A β plaque was immunoreactive for A β protein but was diffuse rather than neuritic in nature. There were Lewy bodies observed in the locus coeruleus, parahippocampal gyrus, and amygdala. Also, aluminum was found at higher than normal levels in the affected brain regions⁴¹⁵. For instance, four samples taken at various locations in the frontal lobe yielded aluminum levels of 3.24, 4.33, 5.71, and 11.01mcg/gr dry-weight. These values compare with 0 – 2mcg/gr dry-weight seen in normal brains. NFTs are hallmarks of AD and Lewy bodies are also observed in AD, particularly in early onset AD⁶⁶³. In this case the location of the A β peptide deposition in the vasculature was indicative of CAA, although no macroscopically visible hemorrhages were seen⁴¹⁵.

This is the first human case in which aluminum has been linked to CAA. There is animal data showing that aluminum accumulation in the brain does lead to A β peptide deposition in the CNS vascular system.

