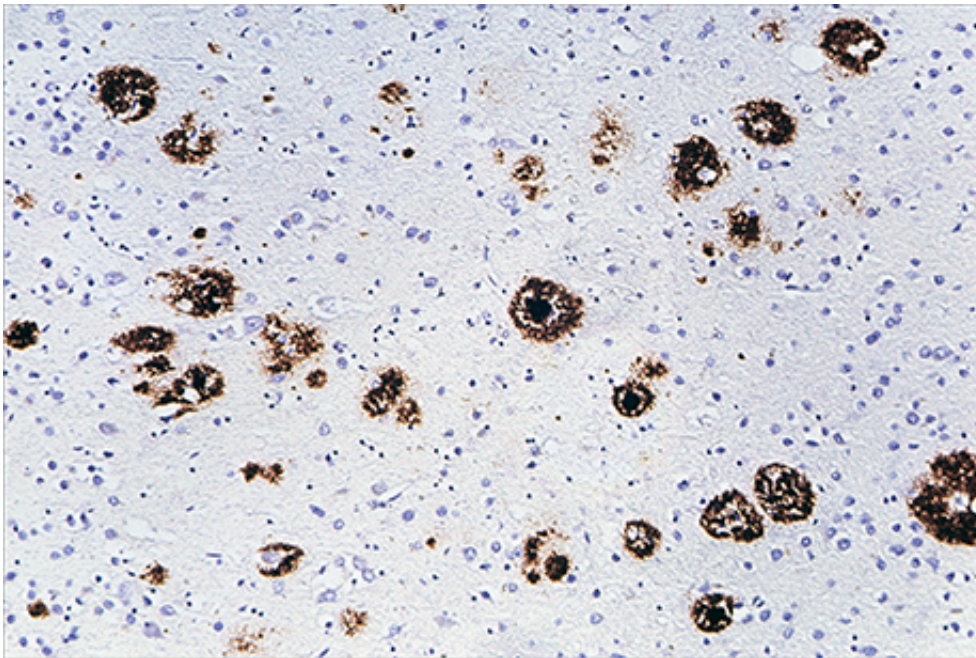


Alzheimer-type brain pathology after transplantation of dura mater

January 26 2016



Brown-colored A-beta plaques in the cerebral cortex in Alzheimer's disease.
Credit: University Hospital Zurich

Up to now Alzheimer's disease has not been recognized as transmissible. Now researchers at the University of Zurich and the Medical University Vienna demonstrated Alzheimer-type pathology in brains of recipients of dura mater grafts who died later from Creutzfeldt-Jakob disease.

Alzheimer's [disease](#) (AD) is characterized by progressive dementia and

[brain plaques](#) consisting of the A β protein. Conventional wisdom has it that AD is not a transmissible disease. However, plaques recovered from brains of AD patients were repeatedly found to induce further plaques when injected into the brains of laboratory mice, suggesting that transmission may actually occur.

Reporting in today's *Swiss Medical Weekly*, Karl Frontzek and colleagues (University of Zurich and Vienna Medical University) have investigated individuals who received [brain](#) grafts of dura mater during neurosurgery. The dura mater ("tough mother") is the leathery membrane covering the brain and spinal cord. Such grafts were necessary to allow the brain to heal after surgery. Tragically, some of the dura mater donors were infected with prions (the agents causing the fatal Creutzfeldt-Jakob disease), and the grafting procedure transmitted the disease to the recipients.

Frontzek and colleagues now report the presence of A β plaques in 5 of 7 brains of relatively young recipients of dura mater grafts who succumbed to Creutzfeldt-Jakob disease. A β plaques were detected much more frequently than in brains of people who did not receive any dura mater grafts. A β plaques are highly unusual in young individuals and may have been caused by the dural grafts. This study adds to the evidence that the hallmarks of AD may indeed be transmissible under certain circumstances, and calls for heightened attention to an unexpected, potentially very serious problem of transplantation medicine.

More information: Karl Frontzek, Mirjam I. Lutz, Adriano Aguzzi, Gabor G. Kovacs and Herbert Budka. Amyloid- β pathology and cerebral amyloid angiopathy are frequent in iatrogenic Creutzfeldt-Jakob disease after dural grafting. *Swiss Medical Weekly*. January 26, 2016. [DOI: 10.4414/smw.2016.14287](https://doi.org/10.4414/smw.2016.14287)

Provided by University of Zurich

Citation: Alzheimer-type brain pathology after transplantation of dura mater (2016, January 26)
retrieved 23 April 2024 from

<https://medicalxpress.com/news/2016-01-alzheimer-type-brain-pathology-transplantation-dura.html>

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