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Neuro *Images*

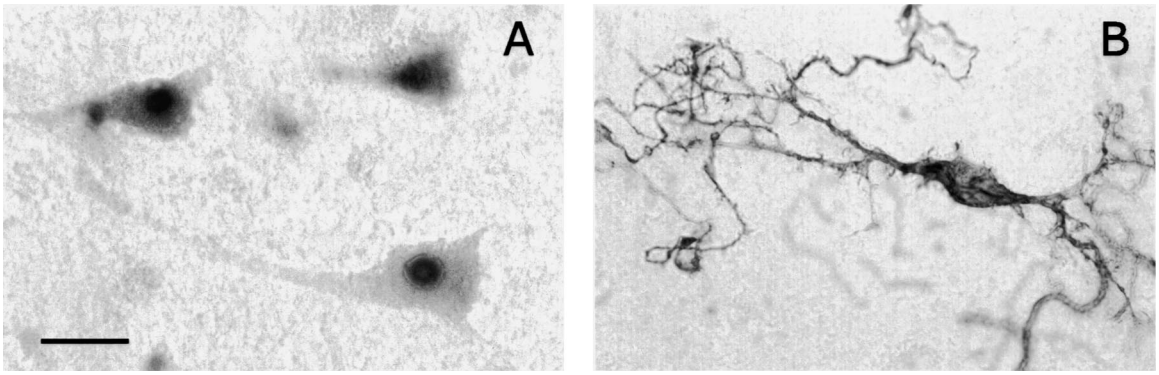

Figure. Cells in cultured 200-μm-thick motor cortex slices from a deceased PD patient (female, 79 years, postmortem delay: 5 hours) express the reporter genes β-galactosidase (A) and green fluorescent protein (B). The slices were infected with recombinant adeno-associated virus containing the respective genes after 34 (A) and 20 (B) days in culture and stained 10 (A) and 12 (B) days later. (A), pyramidal cells from layer III are shown. (B) An unidentified cell located in layer V, which may be an interneuron or an astrocyte. Bar denotes 20 μm.

Life after death?

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It is generally accepted that irreparable damage to the brain follows if its blood supply is interrupted for more than 5 to 10 minutes.[1] This is certainly true for the brain, functioning as an integral organ. However, we obtained evidence that many neurons survive a postmortem delay of 2 to 8 hours and can be maintained alive outside the body for extensive periods of time.[2] Thus, it appears that neurons are less vulnerable to hypoxia/ischemia than is often assumed. Figures A and B illustrate that neurons and other cells in long-term slice cultures from postmortem human brain can still express viral–vector-mediated transgenes for β-galactosidase and green fluorescent protein. This shows that neurons may be amenable to gene therapeutic approaches after ischemic insults.

The authors are unaware of any conflict of interest.

Supported by Internationale Stichting Alzheimer Onderzoek (ISAO), Alzheimer Stichting Nederland, Platform voor Alternatieven voor Dierproeven, New Drug Research Foundation, Research Institute for Diseases in the Elderly (RIDE/NOW), and Netherlands Organisation for Scientific Research (NOW/GB-MW). Brain material was provided by the Netherlands Brain Bank (coordinator: Dr. R. Ravid).

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Neurology 2002;59;1355
DOI 10.1212/01.WNL.0000032758.08215.D1