

LIPOFUSCIN ACCUMULATION IN PURKINJE CELLS AS A MARKER OF CEREBELLUM AGING

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Lipofuscin has been known as an "age pigment". The aim of this study was to determine the patterns of lipofuscin accumulation in cerebellum Purkinje cells during the process of aging, as well as the Purkinje cell volume density. The cerebellar tissue samples taken from cadavers were divided into four age groups. Stained tissue samples were analyzed for lipofuscin distribution patterns. Morphometric analysis included the quantification of Purkinje cell volume density. Purkinje cells of neocerebellum predominantly did not contain lipofuscin inclusions, or only discrete diffusely distributed lipofuscin granules were present after the age of 50. Even after 70 years of age, not many cells contained lipofuscin. Besides, no significant changes in the volume density of Purkinje cells were observed. Physiological changes in the elderly associated with cerebellum function impairment may be related to the increased lipofuscinogenesis in Purkinje cells after the age of 50, but especially after the age of 70 years.

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