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# Ageing and dementia 4

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## Predeterminative role of early choroid plexus ageing on presenil neuronal atrophy in an animal model: a preliminary histopathological study

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**Background and aims:** Cerebrospinal fluid (CSF) secretion may be increased in the early phases of life and we hypothesised that it gets cool brain possibly via its nourishing and cooling effect to prevent early neurodegeneration and cortical atrophy that choroid vesicles has not been definitively investigated. We studied the relationship between early choroid plexus (CP) ageing related decreased water vesicles numbers of CP and parietal cortical neuronal degeneration/atrophy in the early CP degeneration.

**Methods:** This study was conducted on 40 rats, divided into four groups, with 8 rats in the new-born group (G-I), 10 rats 1.8 years old (G-II), and 22 rats in the ageing group (G-III) at the age of three years divided into two groups as early calcified (G-IIIA; n=13) and noncalcified group (GIII-B; n=9). Each group's parietal cortices and CPs were analysed with stereological-histopathological methods.

**Results:** The mean number of degenerated neuron density of parietal cortex was 3±1 in G-I, 5±2 in GII, 2.853±834 in GIII-A and 1.870±595 in the GIII-B. The differences between the mean number of water vesicles and neuron density of parietal cortex was meaningful statistically for GII/GI ($P<0.001$); GII/GIII-A ($p<0.0005$); GII/GIII-B ($p<0.0001$) and GIII-B/GIII-A ($p<0.001$).

**Conclusion:** Water vesicles numbers of CP make a peak in the middle age and decrease in time with calcification of CP in late terms of life. Because increased CSF secretion cause malnutrition of brain and increased brain temperature result in parietal atrophy in rats.

**Disclosure:** Nothing to disclose