

## Regional cerebral blood flow in Alzheimer's disease: Comparison between short and long-term donepezil therapy

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**Objective:** Treatment with donepezil improves cognitive function of patients with Alzheimer's disease (AD) when compared to a placebo-controlled group. The purpose of this study was to investigate changes in regional cerebral blood flow (rCBF) of AD patients in short-term and long-term treatment with donepezil. **Methods:** rCBF was measured by *N*-isopropyl-*p*-<sup>123</sup>I-iodoamphetamine (IMP) autoradiography method. CBF measurements were performed in 17 AD patients before treatment and after 3 months (short-term therapy) and 1 year (long-term therapy). Regions of interest were set at cerebral cortex and cerebellar hemisphere. We used absolute CBF and relative CBF expressed as ratio to cerebellar CBF. **Results:** Significant increases in relative rCBF were noted in the frontal, parietal and temporal lobes at the end of short-term therapy. rCBF was decreased after the long-term therapy, whereas rCBF was still increased to a slight extent, as compared with the pre-treatment levels. Absolute rCBF showed minimal change and a tendency to decline. **Conclusion:** Relative rCBF significantly increased in the short-term donepezil therapy, while following the long-term therapy, rCBF decreased to the pre-treatment level.

**Key words:** donepezil, Alzheimer's disease, cerebral blood flow