

White matter really matters in cerebral small vessel disease

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Propositions related to the thesis entitled:

WHITE MATTER REALLY MATTERS IN CEREBRAL SMALL VESSEL DISEASE

Role of hypoxia signalling in oligodendrocyte precursor cells
and its crosstalk with endothelial cells

Narek Manukjan

Maastricht, 5th of March 2024

1. Wnt7a mediated β -catenin signalling leads to an increase in blood-brain barrier permeability by decreasing tight junction proteins, rather than a previously suggested decrease in permeability. – *This thesis*
2. Hypoxia in oligodendrocyte precursor cells leads to an increased expression of Vegfa rather than Wnt7a. – *This thesis*
3. Targeting OPC-derived VEGFA as a therapeutical strategy in the early development of cerebral small vessel disease must be taken with caution, as modulating VEGFA might be a double-edged sword. – *This thesis*
4. To facilitate the translation of preclinical findings into clinical applications, further research should focus on using and combining different (animal) models to fully mimic the complex cSVD pathophysiology. – *This thesis*
5. Identifying the involvement of VEGFA signalling in the endothelial cell and oligodendrocyte precursor cell interplay not only clarifies current knowledge gaps, but also paves the way for new diagnostic strategies and treatment options to tackle the growing global cSVD burden. – *This thesis (Impact)*
6. The trophic coupling between cerebral endothelial cells and oligodendrocytes should be “two-way”. – *Miyamoto et al. (Cell Mol Life Sci.)*
7. Dementia is that disabilities are shown in discernment, intellectual ability and will due to brain diseases, and is to lose joyfulness enjoyed and is that the rich become poor. – *Jean Etienne Dominique Esquirol*
8. There is nothing small about the consequences of small-vessel disease. – *Steven Greenberg*
9. Science is magic that works. – *Kurt Vonnegut*
10. The only true wisdom is in knowing you know nothing. – *Socrates*
11. So don't worry about tomorrow, for tomorrow will bring its own worries. Today's trouble is enough for today. – *Matthew 6:34*