

REPORT MD992

In the experiment MD992 we use X-ray Phase-Contrast Tomography (XPCT) to investigate 3D damage in the Vascular and Neuronal Networks in EAE, an experimental model for multiple sclerosis, with and without mesenchyme cells (MSC) treatment.

The experimental results are really promising. We found a deficit in the vascular network at 1 day after onset of the disease. In particular, we measured a reduction in visibility of blood vessels. At this stage, we observed also a reduction in the number of neurons compared to the control sample.

Comparing results 5 days after EAE onset we found a number of blood vessels similar to the control case. We believe this is due to angiogenesis that compensate for the vascular insult. However, we guess new vessels are not efficient in sustaining neurons and we observe a strong reduction in the number of neurons.

Similarly, we showed that the attack to neurons and effects on blood vessels appear to be reduced by MSC treatment. These findings provide new insights in EAE disease and MSC treatment going beyond the current knowledge.

However, these findings show a statistical significance <0.05 . To get medical conclusions with a statistical significance <0.01 a new experiment to increase amount of data has to be performed.