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Supplementary Materials for

Altered D-glucose in brain parenchyma and cerebrospinal fluid of early Alzheimer's disease detected by dynamic glucose-enhanced MRI

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This PDF file includes:

Supplementary Materials

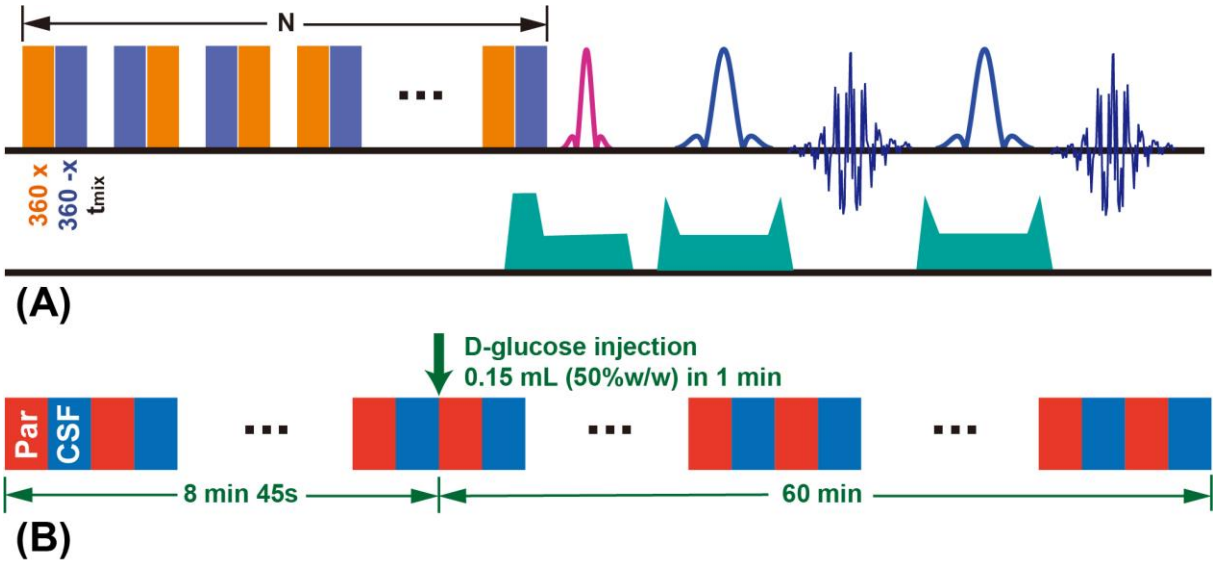

Fig. S1. **OnVDMP sequence diagram (A) and DGE acquisition protocol (B)**. The parenchyma (Par) brain and CSF images are acquired in an interleaved way by adjusting the saturation length of onVDMP. D-Glucose injection was started at 8 min 45 s and lasted for 1 min.

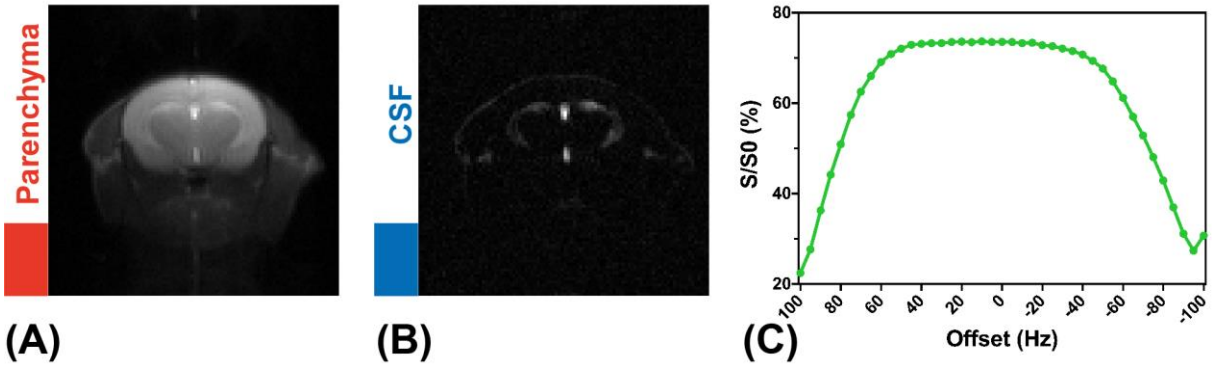

Fig. S2. Example images for total brain (A) and CSF (B) selection. (A) Brain image acquired by the onVDMP sequence with short saturation length (60 ms). **(B)** CSF image acquired with long saturation length (900 ms). **(C)** The onVDMP excitation profile acquired on a normal WT (6M) mouse brain.

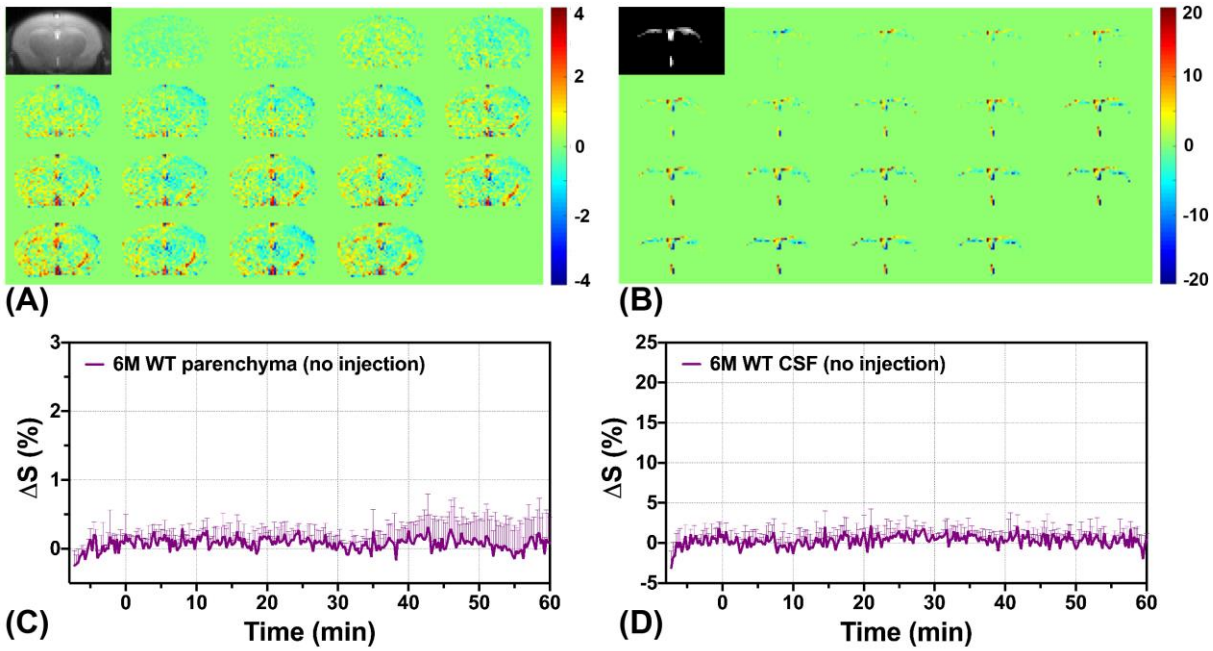

Fig. S3. **DGE MRI results of 6M WT mice (n=3) without injection.** Dynamic difference images for parenchyma brain **(A)** and CSF **(B)**. DGE images were averaged over sets of 15 for display (18 out of 270). Experimental DGE curves for parenchyma brain **(C)** and CSF **(D).**

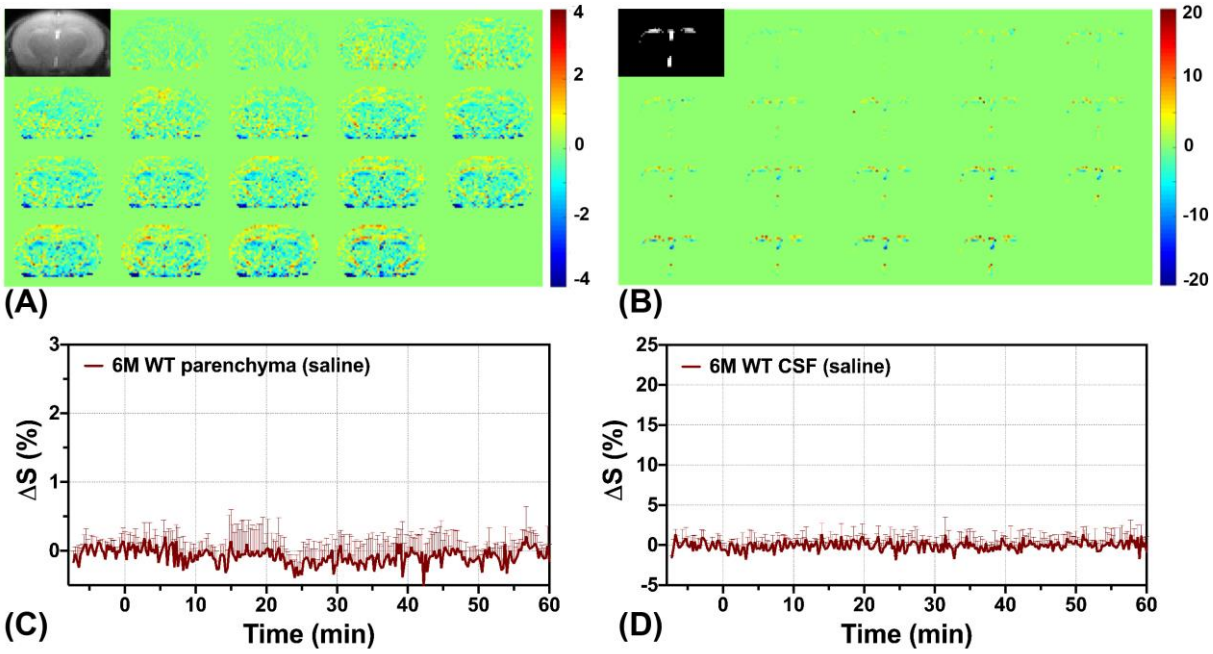

Fig. S4. **DGE MRI results of 6M WT mice (n=3) with saline injection.** Dynamic difference images for parenchyma brain **(A)** and CSF **(B)**. DGE images were averaged over sets of 15 for display (18 out of 270). Experimental DGE curves for parenchyma brain **(C)** and CSF **(D).**

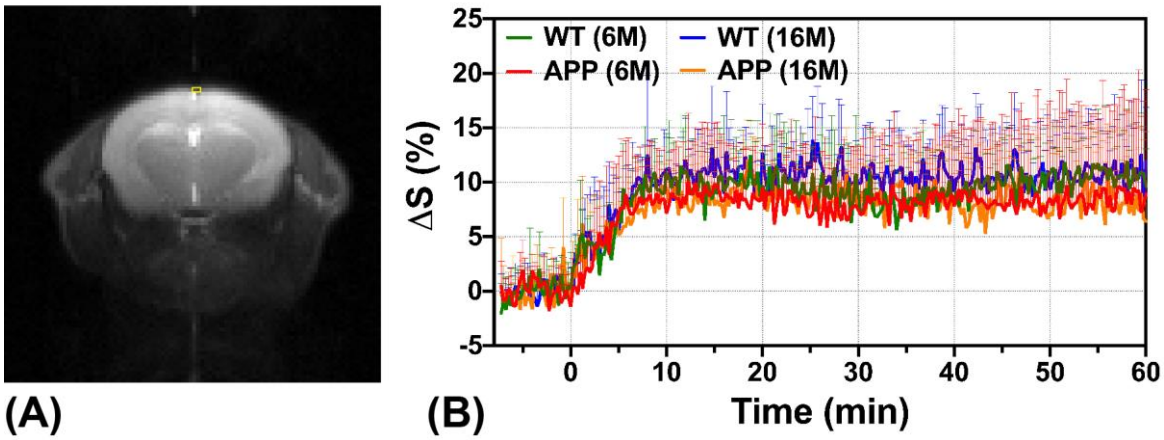

Fig. S5. **DGE MRI results for vessel of WT and APP/PS1 mice. (A)** ROI of vessel (yellow box) chosen from mouse brain. **(B)** DGE curves for all four groups of mice.

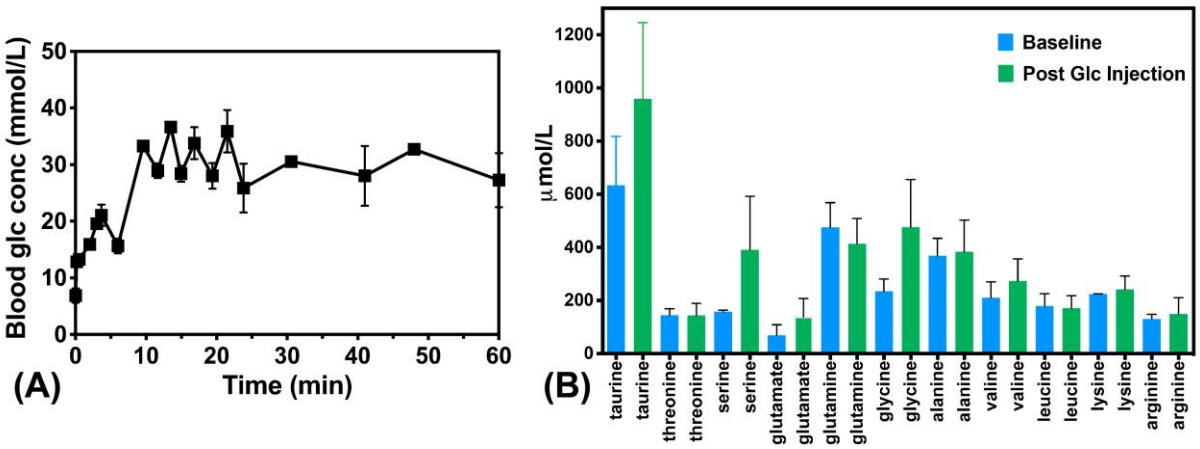

Fig. S6. Blood glucose concentration measurements (A) and chemical analysis (B).

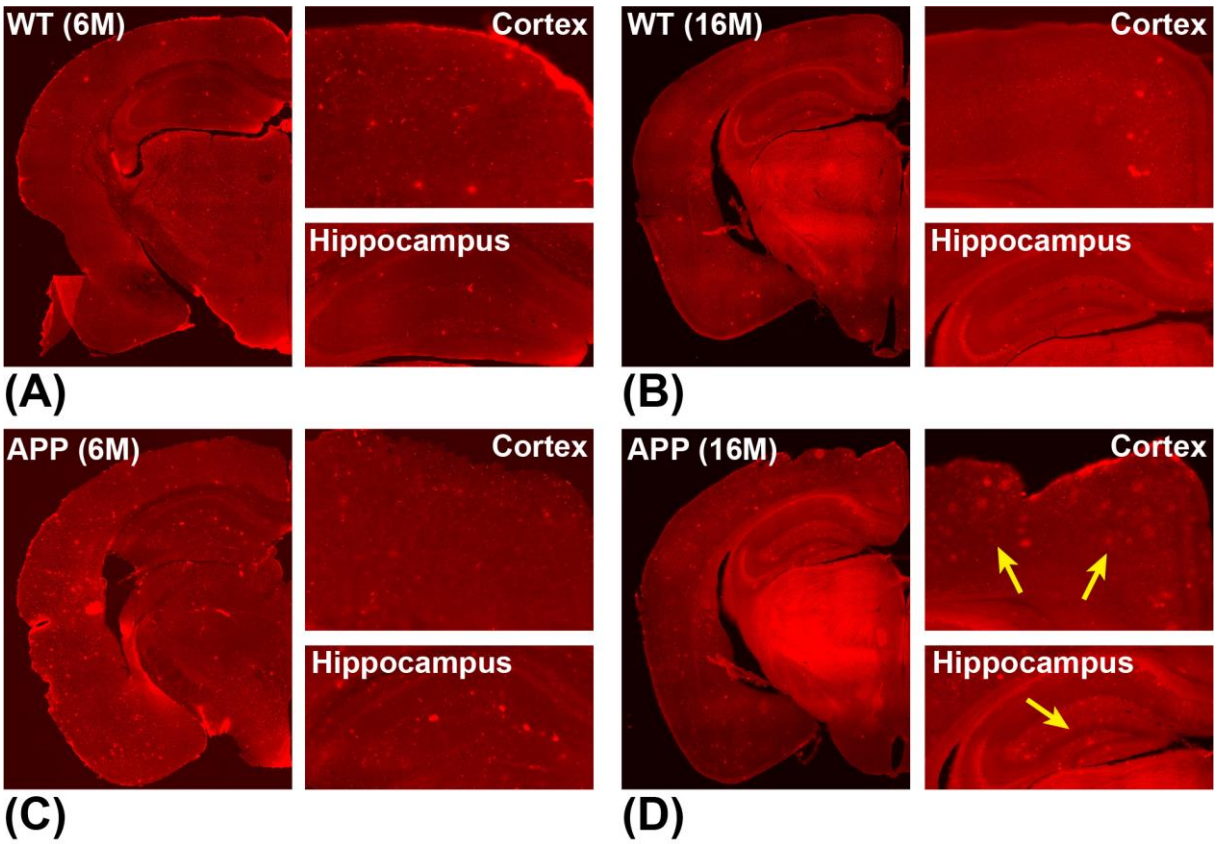

Fig. S7. 6E10 staining histology results of 6M (A) and 16M (B) WT mice, 6M (C) and 16M (D) APP/PS1 mice.