

Figure S1: Identification of the superficial signal contributing to the artifact in Figure 2.

Description of data: Serial structural B-mode images (upper panels) and corresponding power Doppler/fUS images (lower panels) were compared at 0, 15, 30, 45, and 60 min. Red ellipses mark the stable band at the dorsal cranial surface, and arrows indicate its spatial correspondence with the high-intensity superficial signal in the Doppler maps. Its persistent location outside the brain parenchyma supports a superficial cranial or soft-tissue interface artifact rather than a regional CBV response.

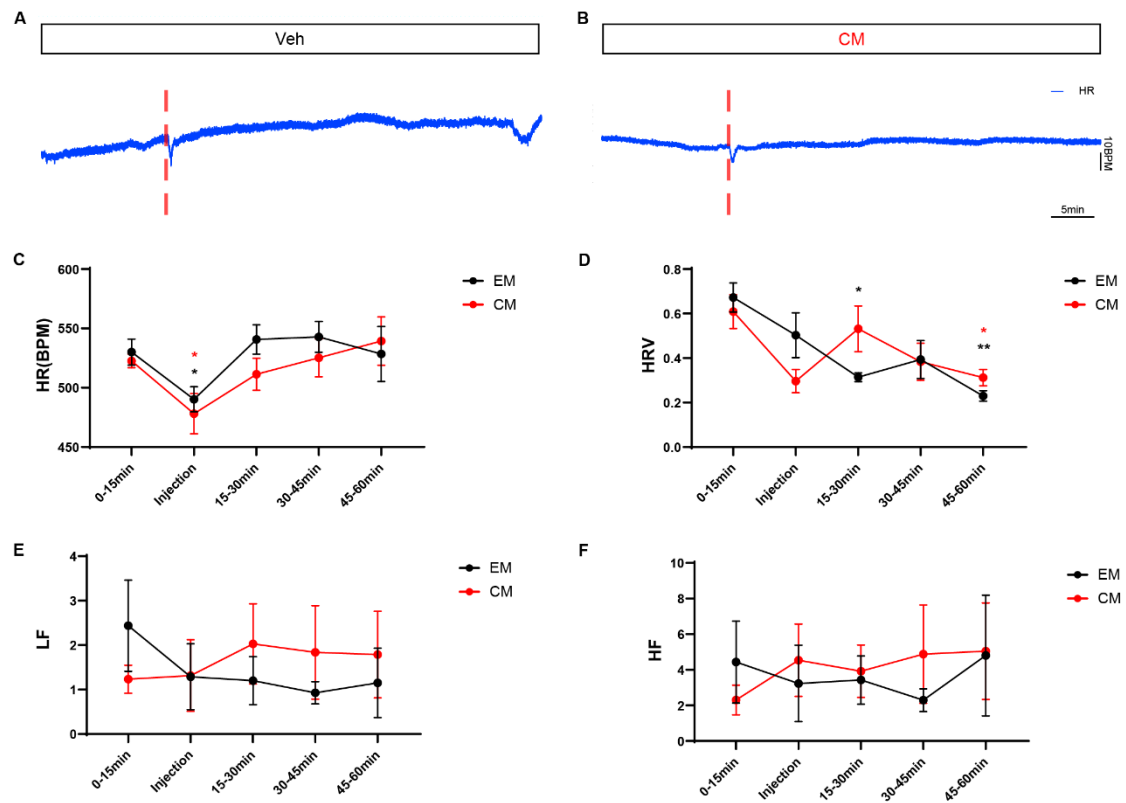


Figure S2: Heart rate and heart rate variability responses following nitroglycerin administration.

Description of data: (a, b) Representative heart rate traces from Veh and CM mice.

Red dashed lines indicate the injection period. (c) Heart rate. Both groups exhibited a significant decrease in heart rate during NTG injection. (d) Heart rate variability. Both groups showed a significant reduction in heart rate variability during 45–60 min after NTG administration. (e) Low-frequency component. No significant difference in low-frequency signals was observed between the two groups during NTG challenge. (f) High-frequency component. No significant difference in high-frequency signals was observed between the two groups during NTG challenge. Data are presented as mean $\pm$ SEM. Veh, $n = 6$; CM, $n = 6$.

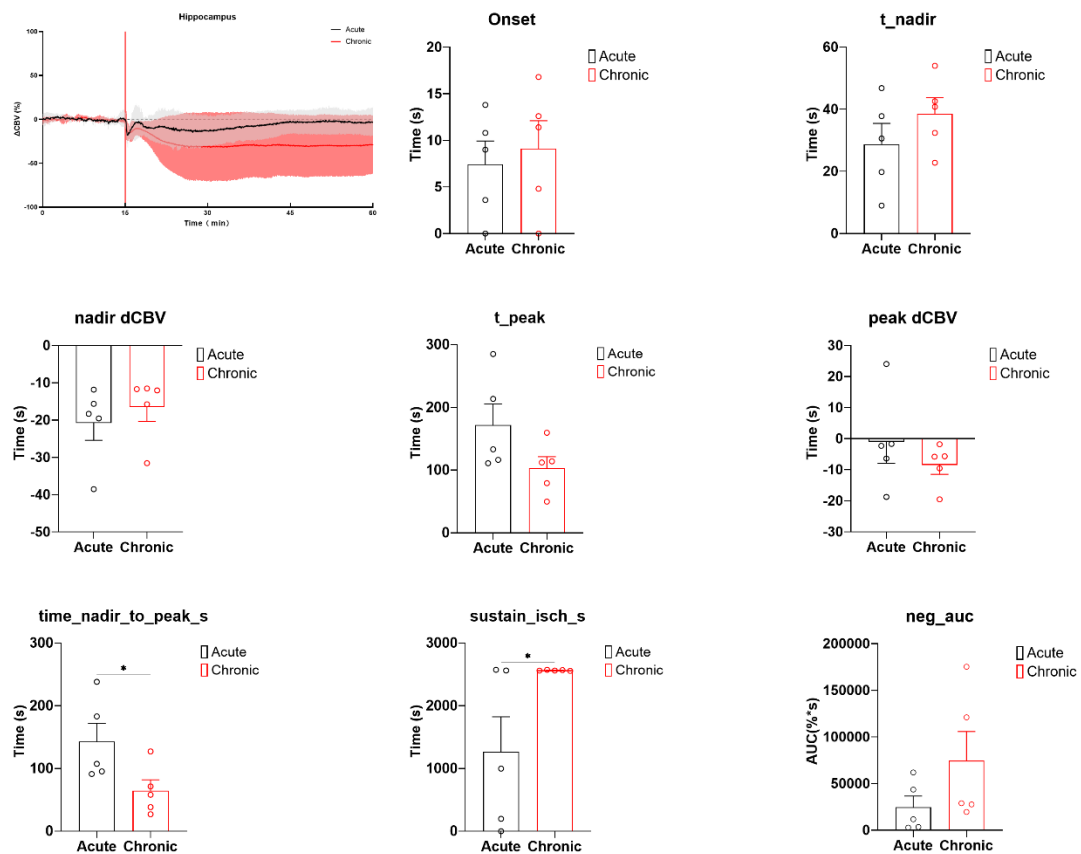


Figure S3: Statistic of CBV in HIP.

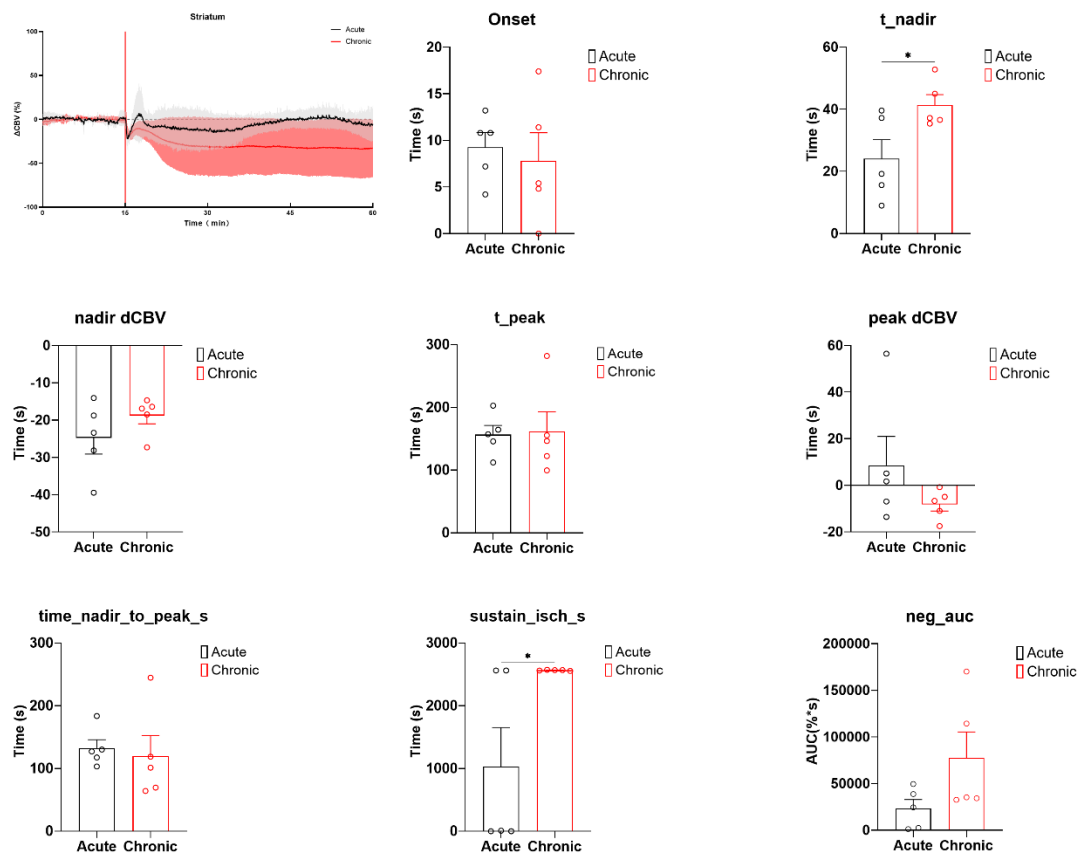


Figure S4: Statistic of CBV in STR.

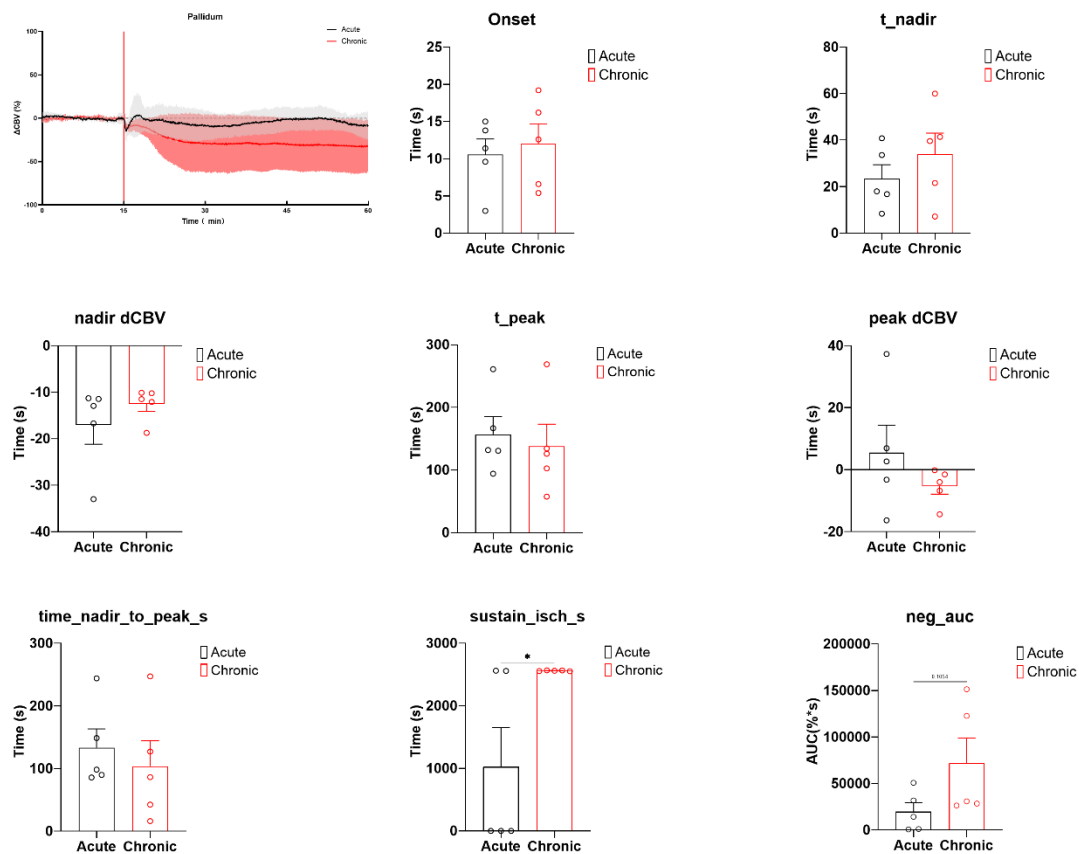


Figure S5: Statistic of CBV in PAL.

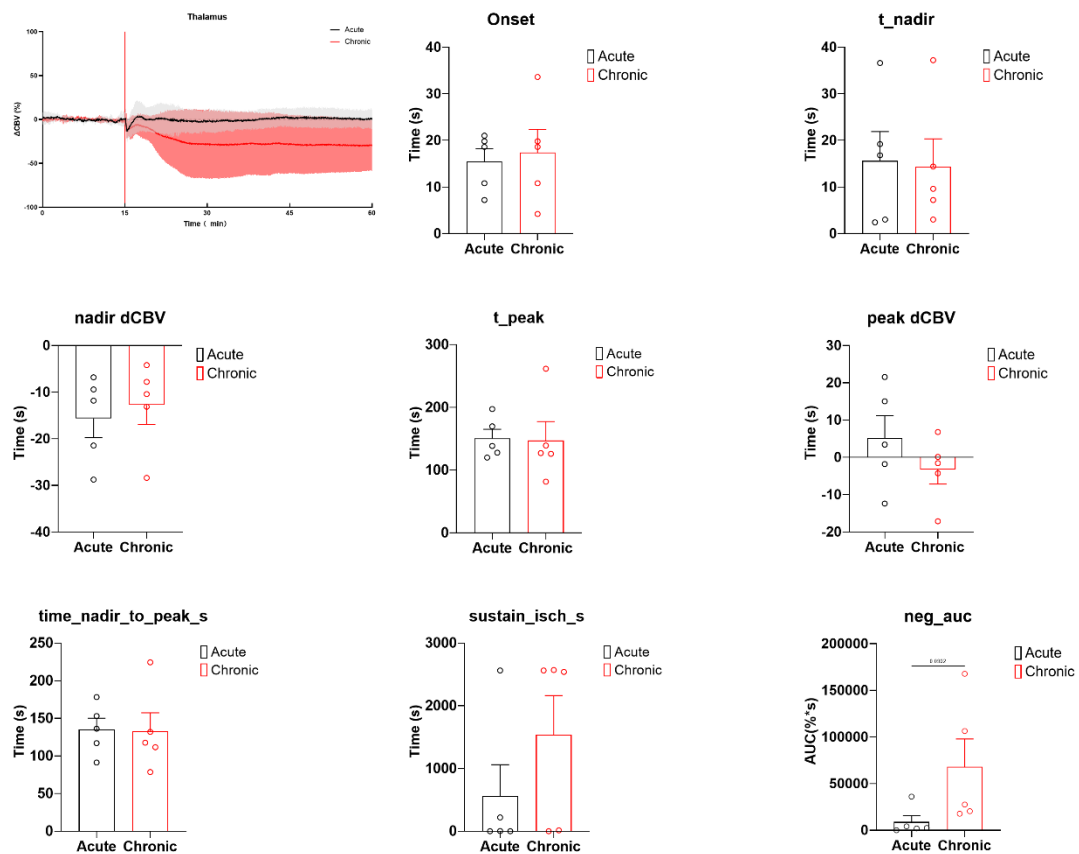


Figure S6: Statistic of CBV in TH.

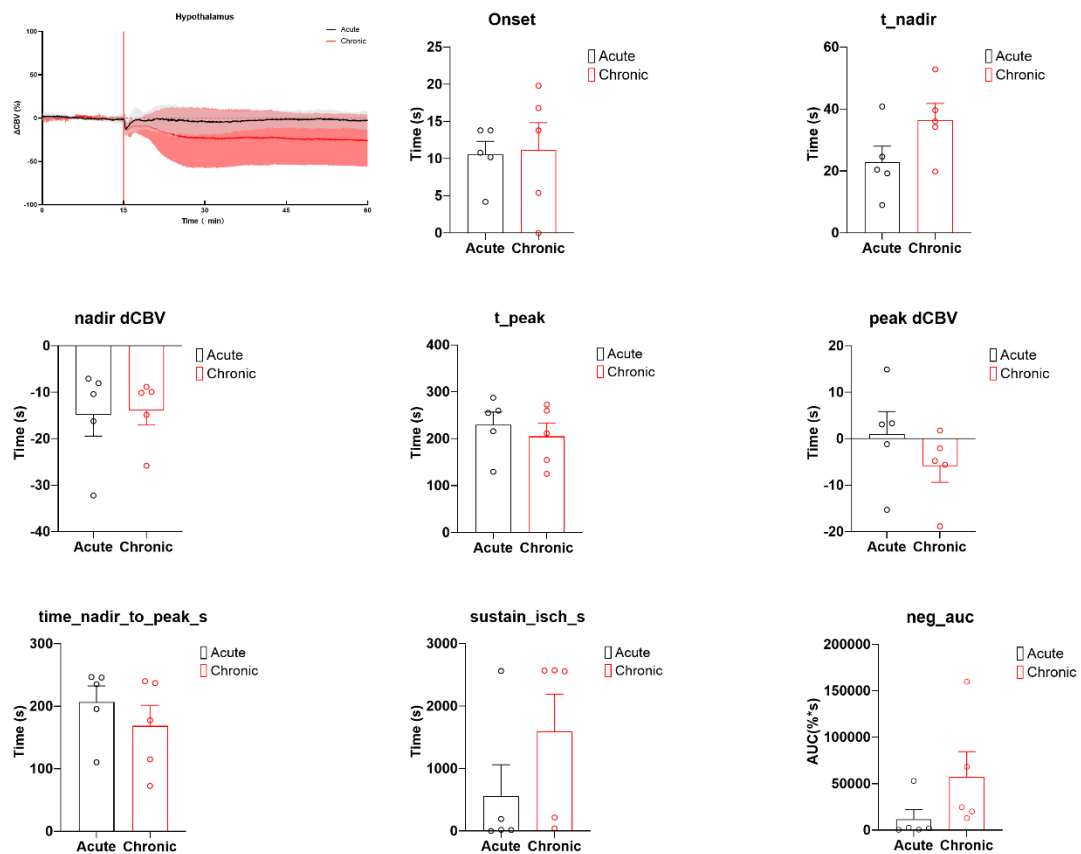


Figure S7: Statistic of CBV in HY.

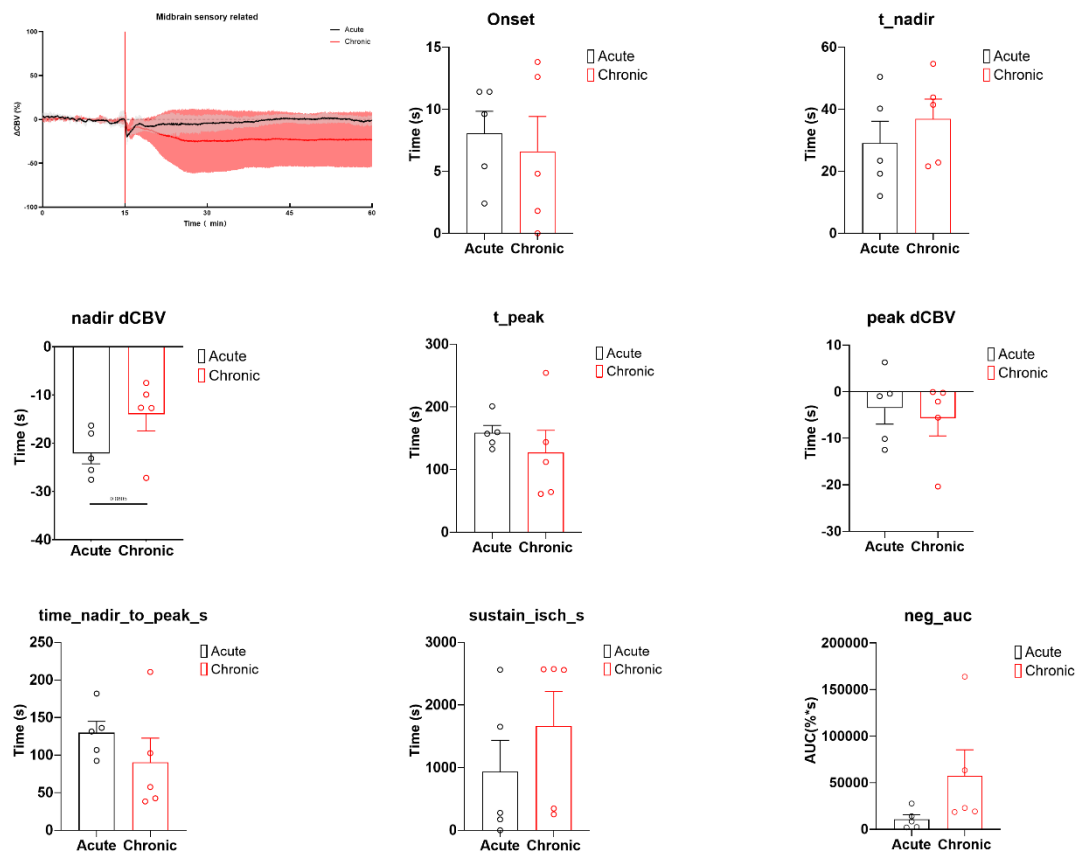


Figure S8: Statistic of CBV in MBsen.

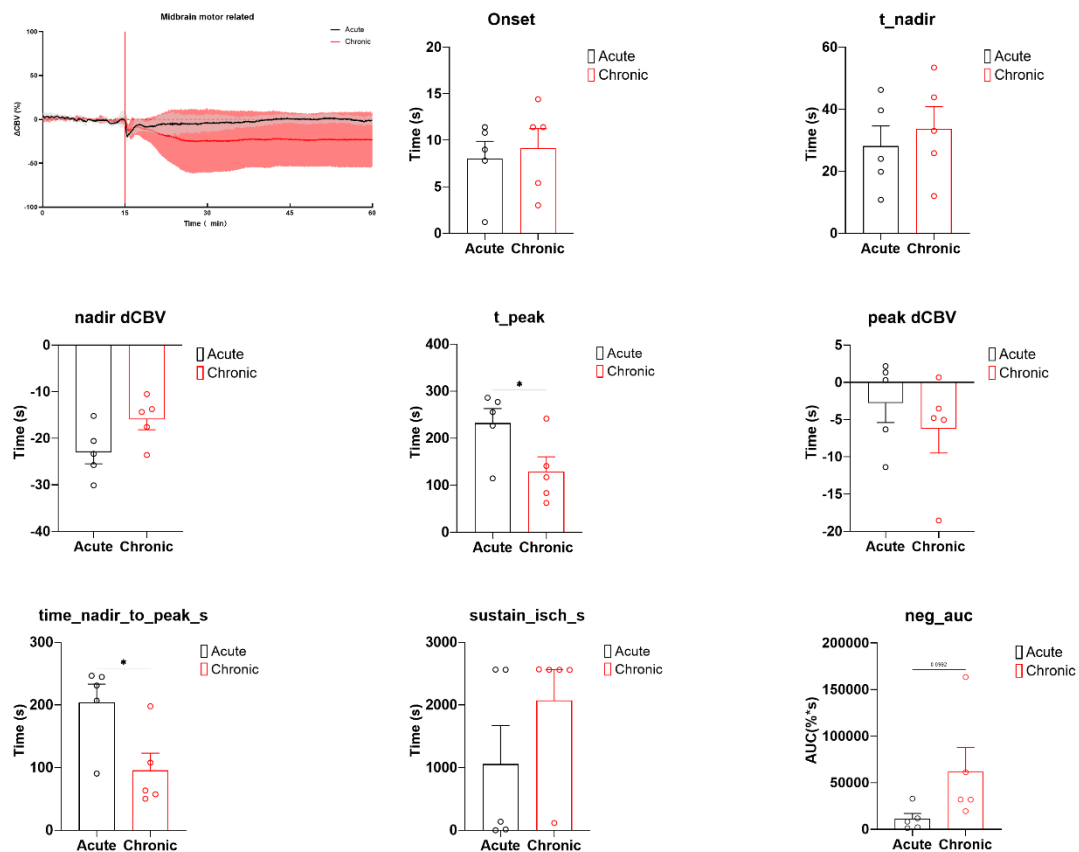


Figure S9: Statistic of CBV in MBmot.

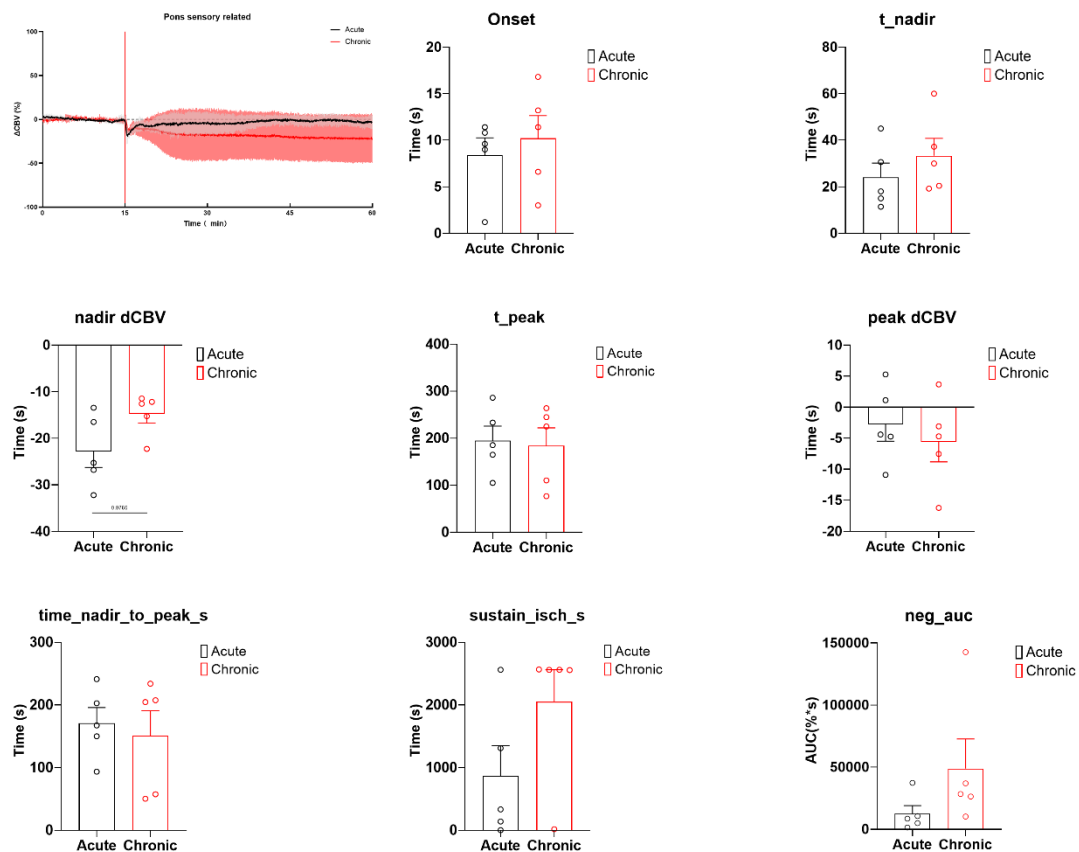


Figure S10: Statistic of CBV in Psen.

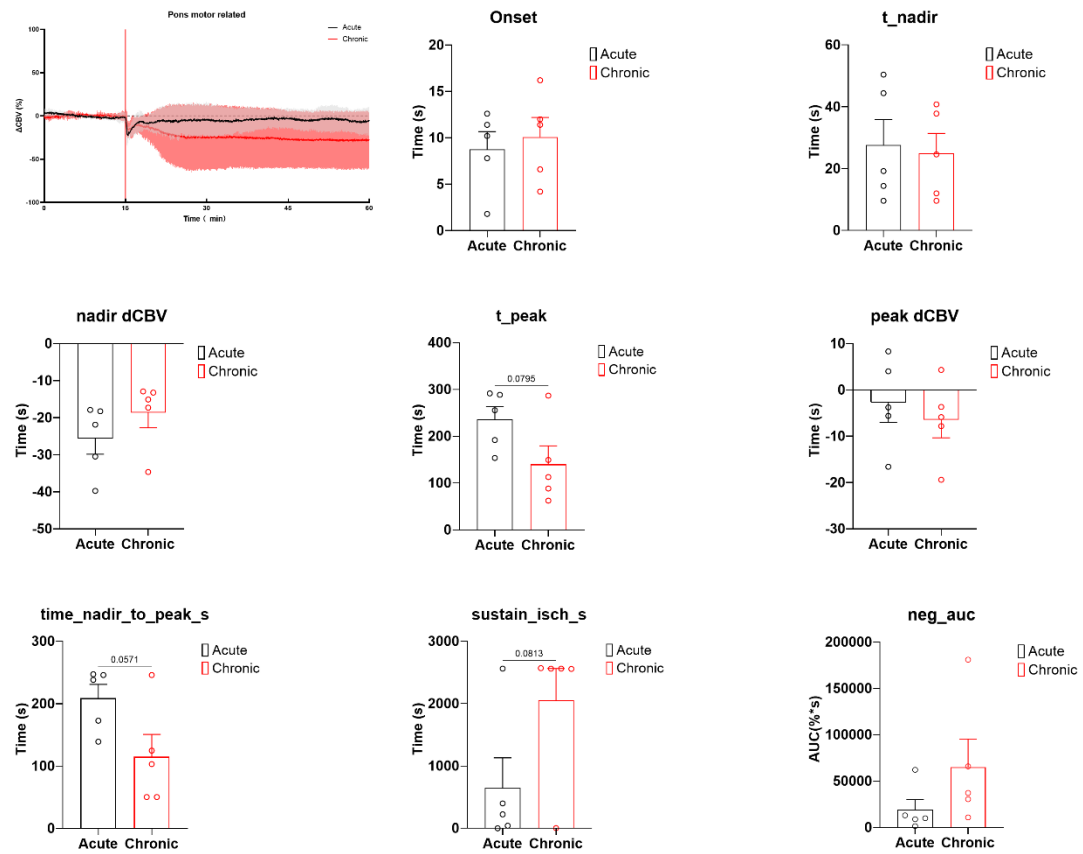


Figure S11: Statistic of CBV in Pmot.

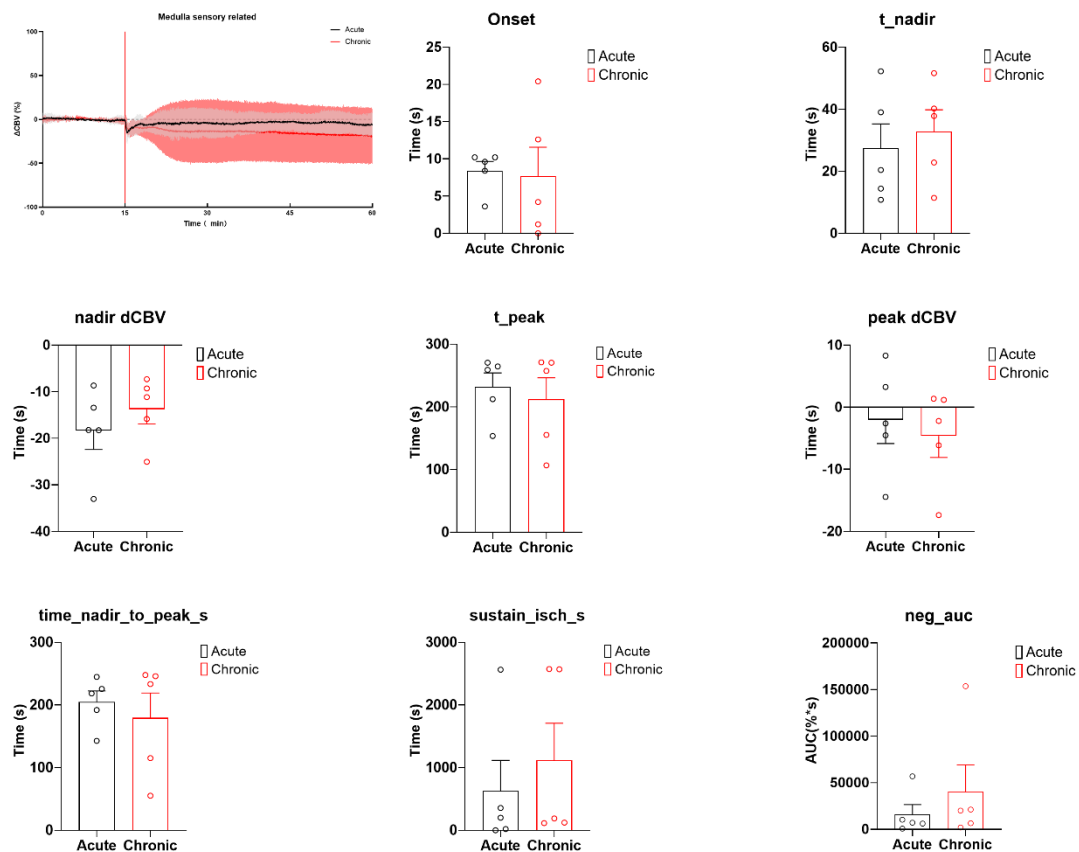


Figure S12: Statistic of CBV in MYsen.

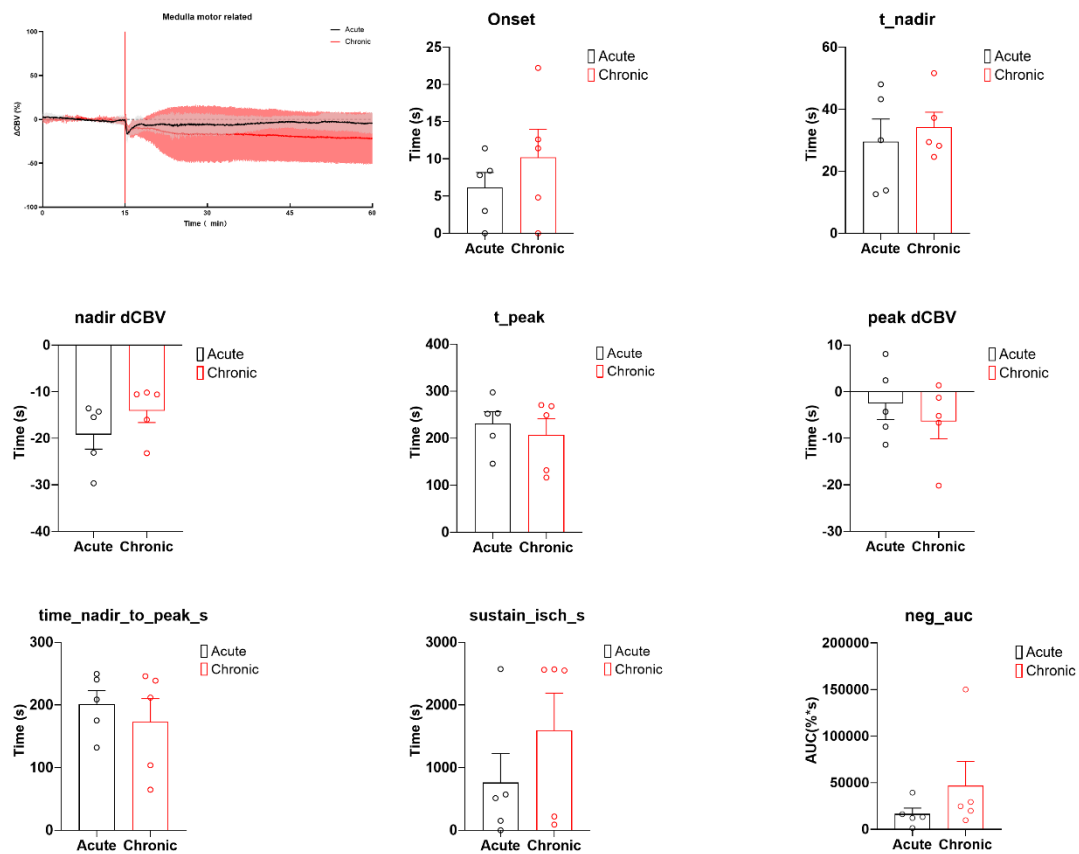


Figure S13: Statistic of CBV in MYmot.

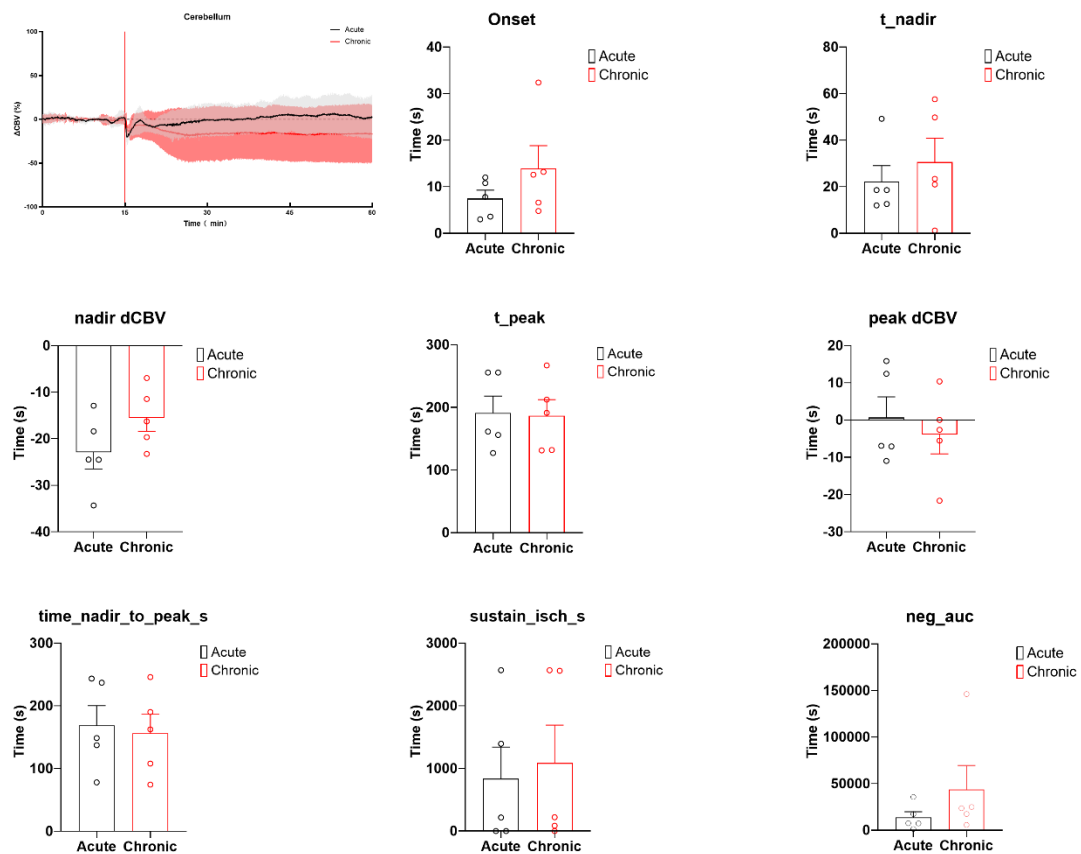


Figure S14: Statistic of CBV in CB.

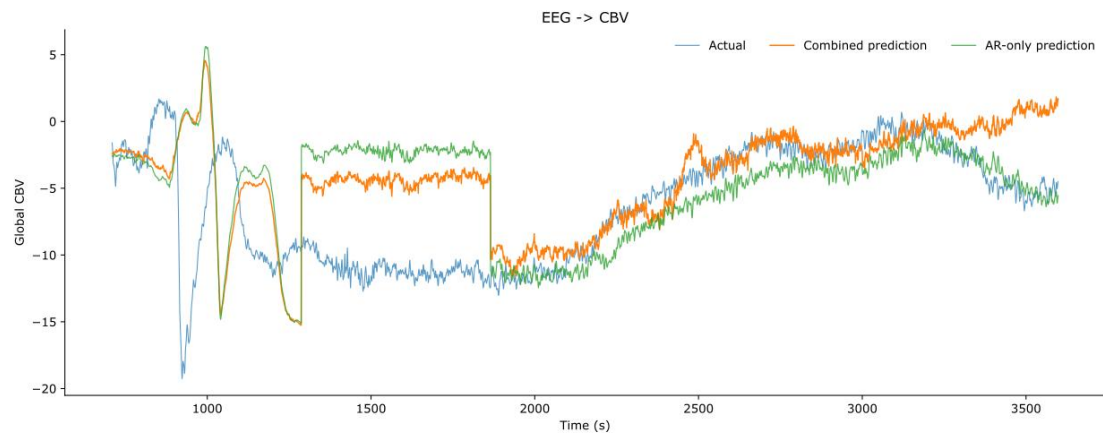


Figure S15: Best-case scenario for EEG prediction of CBV in Veh.

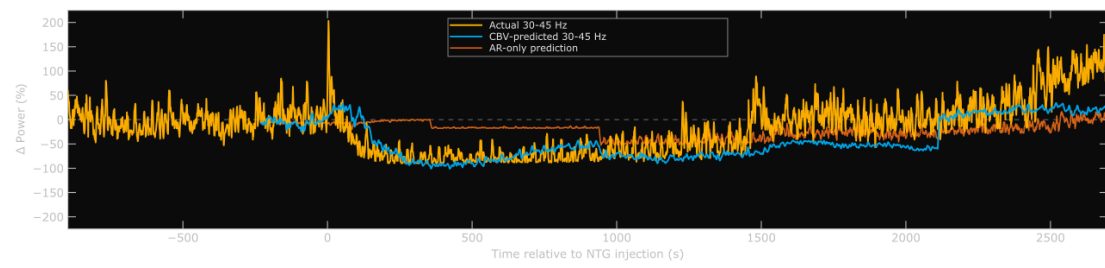


Figure S16: Best-case scenario for CBV prediction of EEG in Veh.

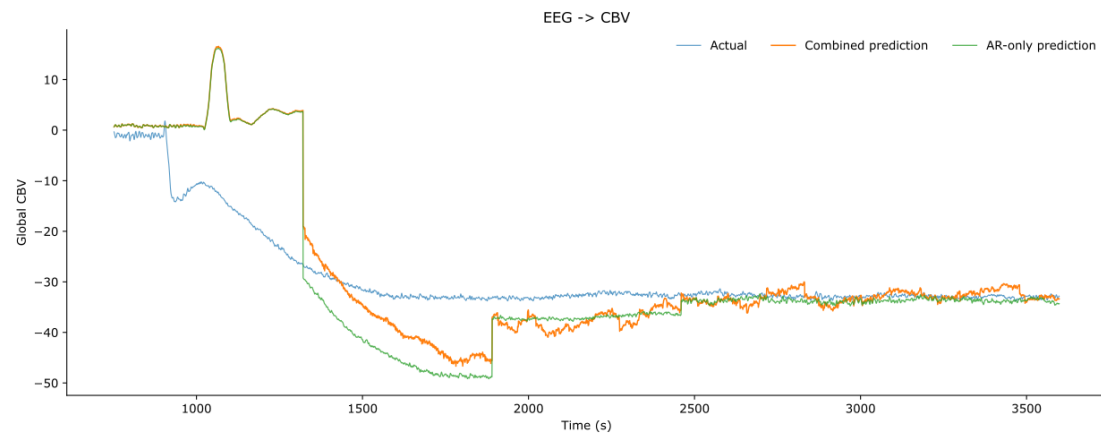


Figure S17: Best-case scenario for EEG prediction of CBV in CM.

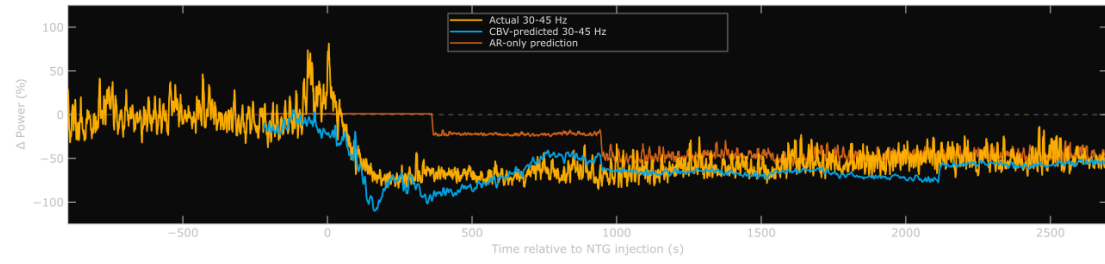


Figure S18: Best-case scenario for CBV prediction of EEG in CM.