

Supplementary materials

Table S1. Prognostic performance of GWR in the expanded cohort including all CTs

Timing after arrest	AUC (95% CI)	Sensitivity (95% CI)	Specificity (95% CI)	PPV (95% CI)	NPV (95% CI)
<24 h	0.71 (0.63–0.79)	0.25 (0.18–0.32)	0.94 (0.83–0.98)	0.92 (0.79–0.97)	0.29 (0.23–0.37)
24–96 h	0.78 (0.70–0.85)	0.43 (0.35–0.52)	0.90 (0.77–0.96)	0.93 (0.84–0.97)	0.33 (0.25–0.42)
96–168 h	0.80 (0.73–0.86)	0.37 (0.29–0.46)	1.00 (0.91–1.00)	1.00 (0.93–1.00)	0.33 (0.25–0.42)

Note: This dataset further included patients with only one or two CT scans (n = 118) obtained within 168 h after cardiac arrest.

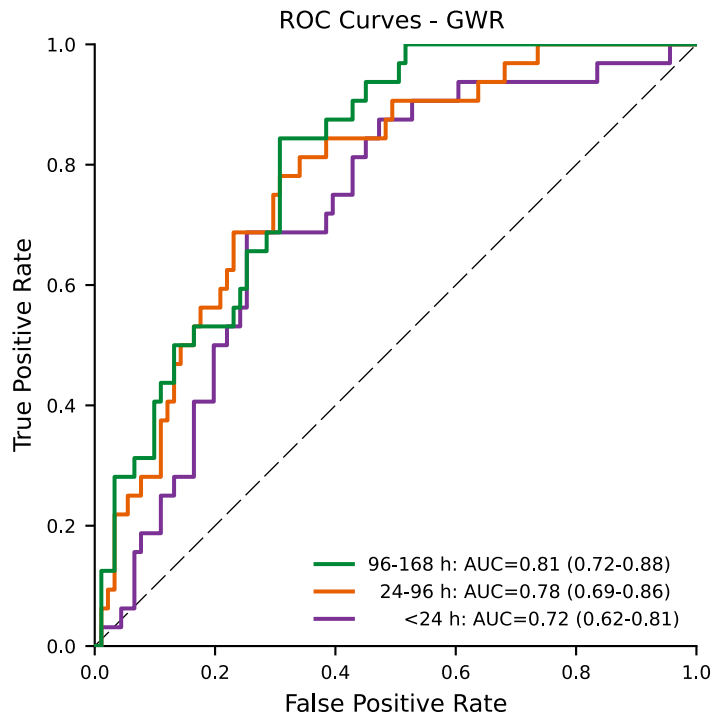
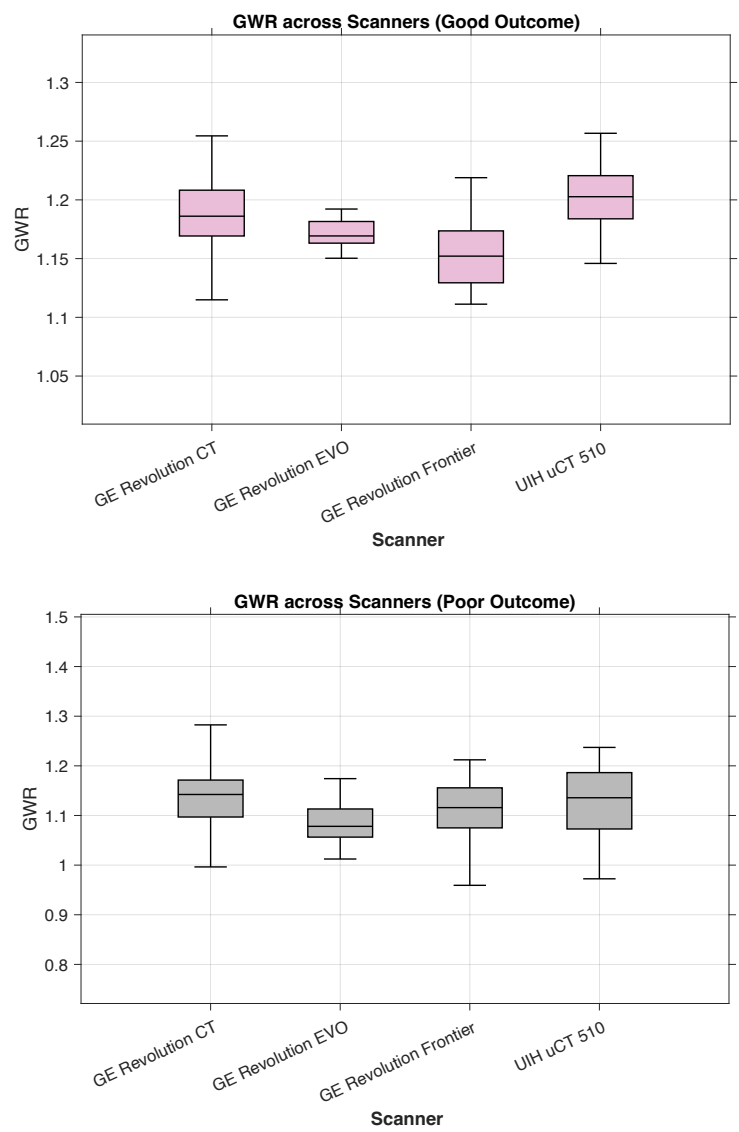


Figure S1. Predictive performance of gray-white matter ratio (GWR) for outcome in comatose patients. Receiver operating characteristic (ROC) curves show the predictive ability of GWR measured at different time windows after cardiac arrest (<24 h, 24-96 h, and 96-168 h). The area under the curve (AUC) was the highest when GWR was assessed at 96-168 h (AUC 0.81, 95% CI 0.72-0.88), followed by 24-96 h (AUC 0.78, 95% CI 0.69-0.86), and <24 h (AUC 0.72, 95% CI 0.62-0.81).

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Figure S2. Distributions of GWR values across different CT scanners in patients with good and poor outcomes. Boxplots show the median and interquartile range for each scanner. Only scanners with more than six scans were included.

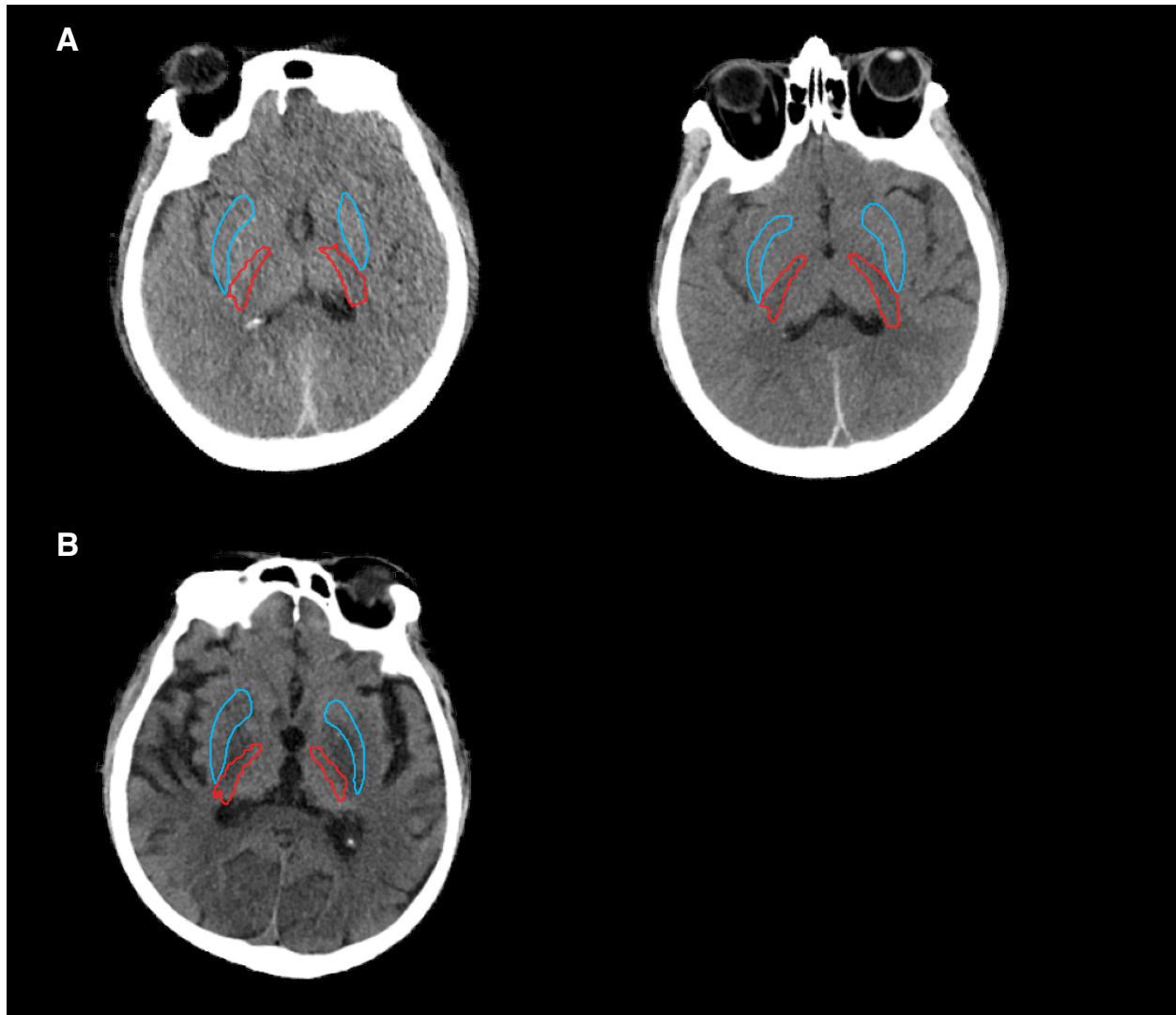


Figure S3. Representative head CTs from two false-positive GWR cases ($GWR < 1.1$ but with good neurological outcome). (A) CTs from a 44-year-old woman after cardiac arrest due to coronary artery spasm who required ECMO. The early CT (left) shows diffuse loss of gray-white matter differentiation consistent with cerebral edema; follow-up imaging demonstrated recovery of gray-white differentiation. (B) Initial CT from a 42-year-old man with arrest of unknown cause. Automated placement of the white-matter ROI in the left posterior limb of the internal capsule partially overlapped the left thalamus, which produced an artificially low GWR.