

Supplementary Material

Table 1. Technical parameters for HR-VWI acquisition in a 7T GE MR950 scanner.

Parameter	3D T1 CUBE
TR (msec)	1400
TE (msec)	15.475
Flip angle	90
Bandwidth (Hz/pixel)	62.5
FOV (mm)	180
Matrix (mm)	384x384
Voxel size (mm)	0.5x0.5x0.5
Slice thickness (mm)	0.5
ETL	72
Acquisition time	7:16

ETL: echo train length; FOV: field of view; TE: echo time; TR: response time.

Table 2. Demographic Data

Demographic Data	
Men % (N)	47.2 (17)
Diabetes Mellitus % (N)	22.2 (8)
Hypertension % (N)	72.2 (26)
Smoking % (N)	47.2 (17)
Age ($\mu \pm SD$)	59 $\pm$ 12
NIHSS at admission ($\mu \pm SD$)	2.5 $\pm$ 3
Time from stroke to imaging (months) ($\mu \pm SD$)	4.25 $\pm$ 7.54
Stroke Mechanism of the Culprit Atherosclerotic Plaque % (N)	
Athero-embolic	30.5 (11)
Hypoperfusion	33.3 (12)
Perforator-occlusion	19.4 (7)
Unable to determinate	16.6 (6)

Table 3. DWI Findings of Culprit Plaques

Subject	Side	Plaque Location	Stroke location
1	R	MCA	Right caudate and putamen; right frontal and parietal lobes
2	L	MCA	Left parietal lobe
3	L	MCA	Left frontal, parietal, and temporal lobes
4		Basilar	Right occipital lobe and right cerebellar hemisphere
5	R	MCA	Right temporal lobe
6	R	MCA	Right putamen; right parietal and temporal lobes
7		BA	Left median pons
8	R	MCA	Right frontal and parietal lobes
9	R	MCA	Right frontal and parietal lobes
10	L	MCA	Left parietal lobe
11	L	MCA	Left parietal lobe
12	L	VA	Left occipital lobe
13	L	MCA	Left temporal and parietal lobes
14	L	ICA	Left parietal lobe
15	R	ICA	Right frontal and parietal lobes
16	L	PCA	Left occipital
17	R	MCA	Right frontal lobe
18		BA	Right occipital lobe
19	L	MCA	Left putamen and parietal lobe
20	L	VA	Left median pons
21		BA	Right cerebellar hemisphere
22	L	ICA	Left parietal and temporal lobes
23		BA	Right occipital lobe
24		BA	Right cerebellar hemisphere
25	R	MCA	Right putamen and caudate; right internal capsule
26	L	VA	Left cerebellar hemisphere
27	R	VA	Right cerebellar, right midbrain
28	R	MCA	Right putamen and caudate; right temporal and parietal lobes
29	L	ICA	Left corona radiata
30	R	MCA	Left frontal and parietal lobes
31	R	ICA	Bilateral frontal lobes
32	L	MCA	Left parietal and temporal lobes
33	L	VA	Left cerebellar and left lateral medulla
34	R	MCA	Right parietal and occipital lobes
35	L	MCA	Left frontal and parietal lobes
36	L	MCA	Right parietal and occipital lobes

ICA= Internal carotid artery; MCA= Middle cerebral artery; BA= Basilar artery ; VA= Vertebral artery; PCA= Posterior cerebral artery

Figure 1. ROC analysis comparison between 2D CRstalk and 3D Gd-uptake

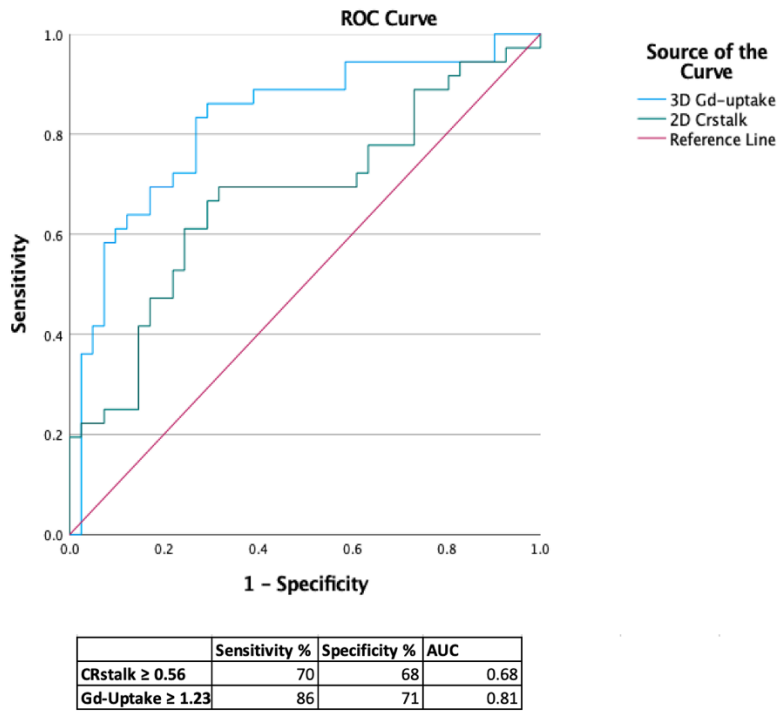


Figure 1. A 3D Gd-uptake of ≥ 1.23 outperformed a 2D CRstalk of ≥ 0.56 in the ROC analysis. 3D Gd-uptake is more sensitive and specific for detecting culprit plaques than conventional 2D multiplanar methods.