Middle cerebral artery-parallel anatomical scanning Magnetic Resonance Imaging (MCPAS) guided recanalization of chronic occluded Middle Cerebral Artery by endovascular treatment

Running title: MCPSA guided recanalization of occluded MCA

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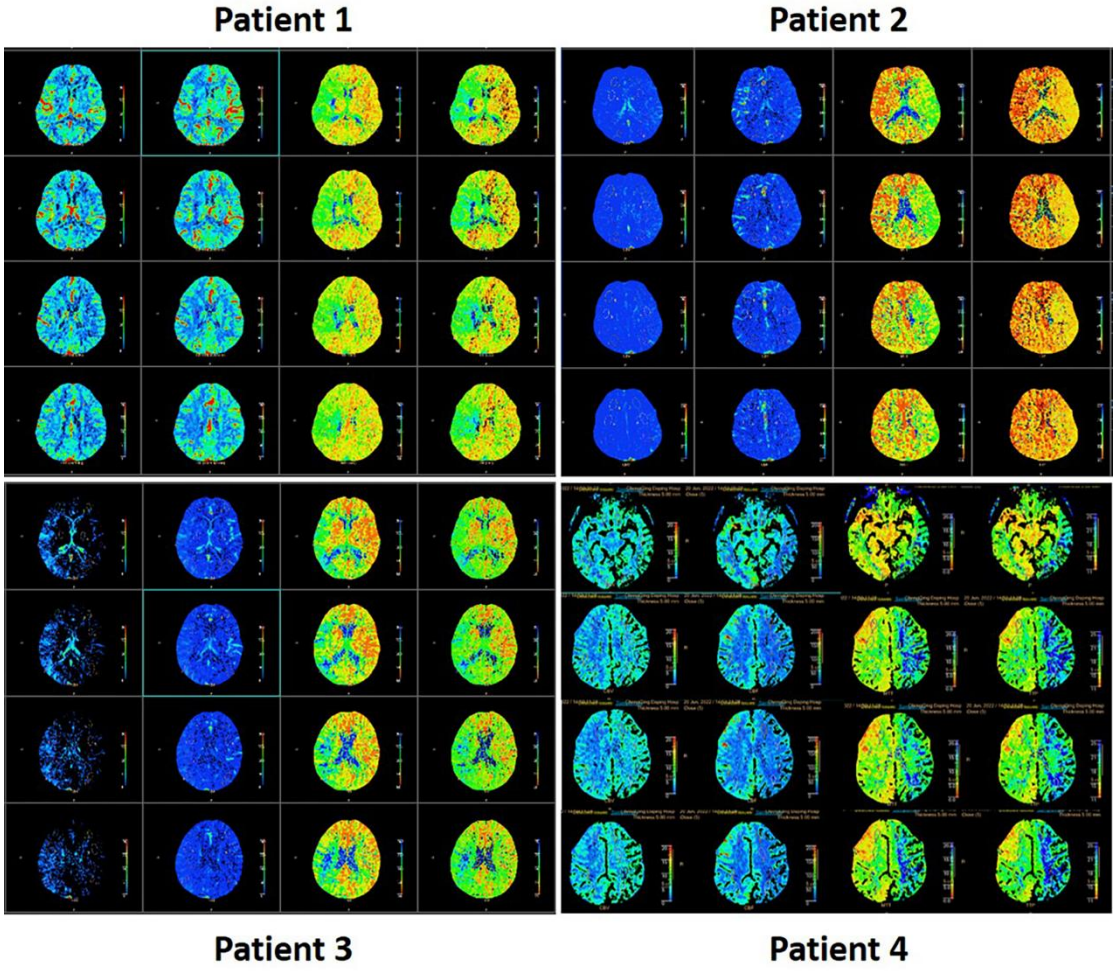
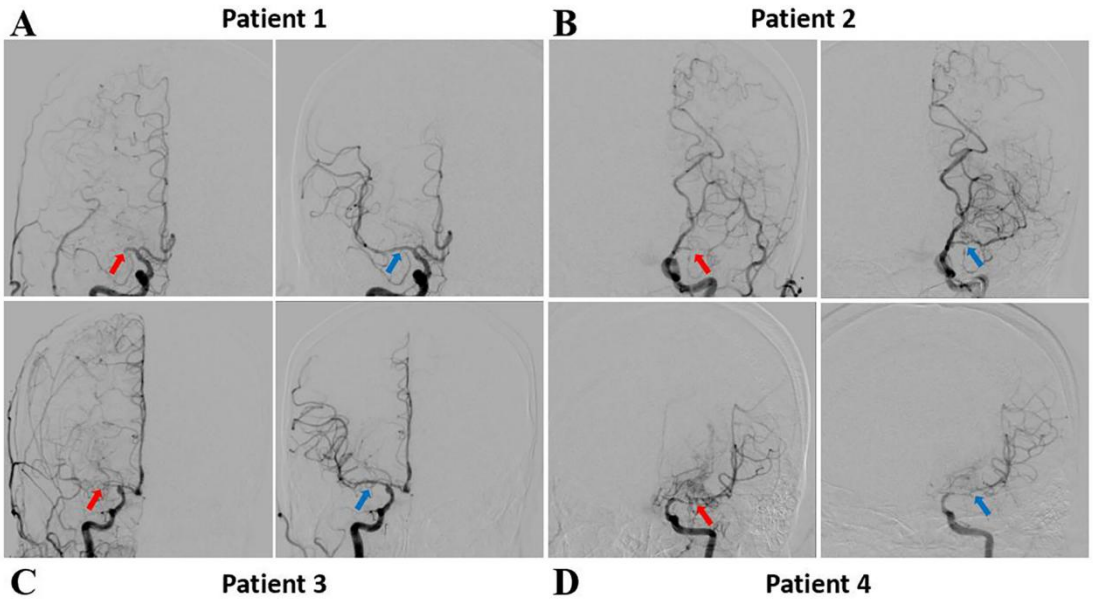
Table 1 Characteristics of the patients

Patients	Age	Target artery	Rapid Tmax＞6s	Treatment strategy	Reocclusion (1 year)	NIHSS admission	NIHSS discharged	mRS 6 mon	complication
Patient 1	60s	RM1	72ml	1 + 2	No	5	5	1	No
Patient 2	50s	LM1	-	1	No	0	0	0	No
Patient 3	70s	RM1	16ml	1 +2	No	0	0	0	No
Patient 4	30s	LM1	251ml	1	No	0	0	0	No
Patient 5	70s	BM1	-	1 + 2	No	0	0	0	No

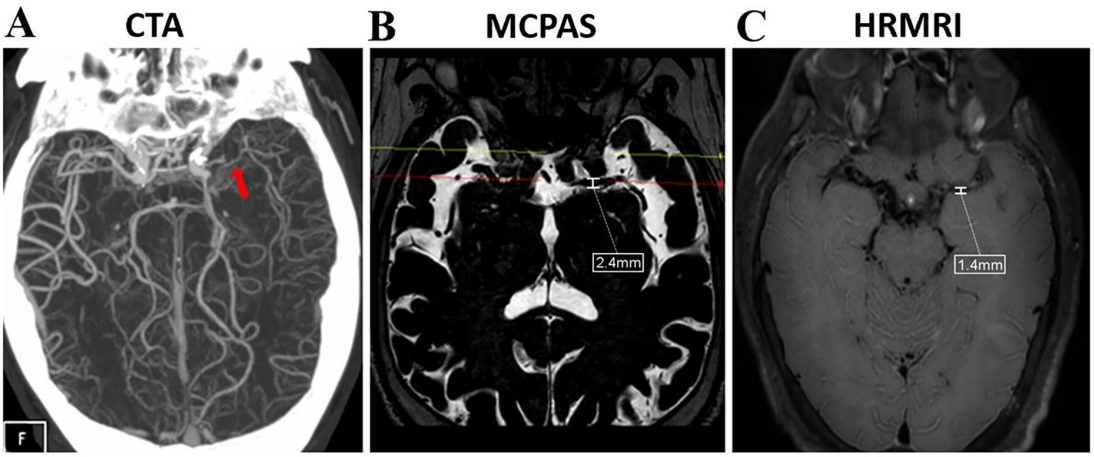
RM1 segment of right middle cerebral artery; LM1, M1 segment of left middle cerebral artery; BM1, M1 segment of bilateral middle cerebral artery; Rapid Tmax＞6s, The volume calculated by Rapid software yields Tmax＞6s; Treatment strategy, 1 balloon dilatation, 2 stent implantation; Reocclusion (1 year), 1-year follow-up revealed reocclusion of the artery.



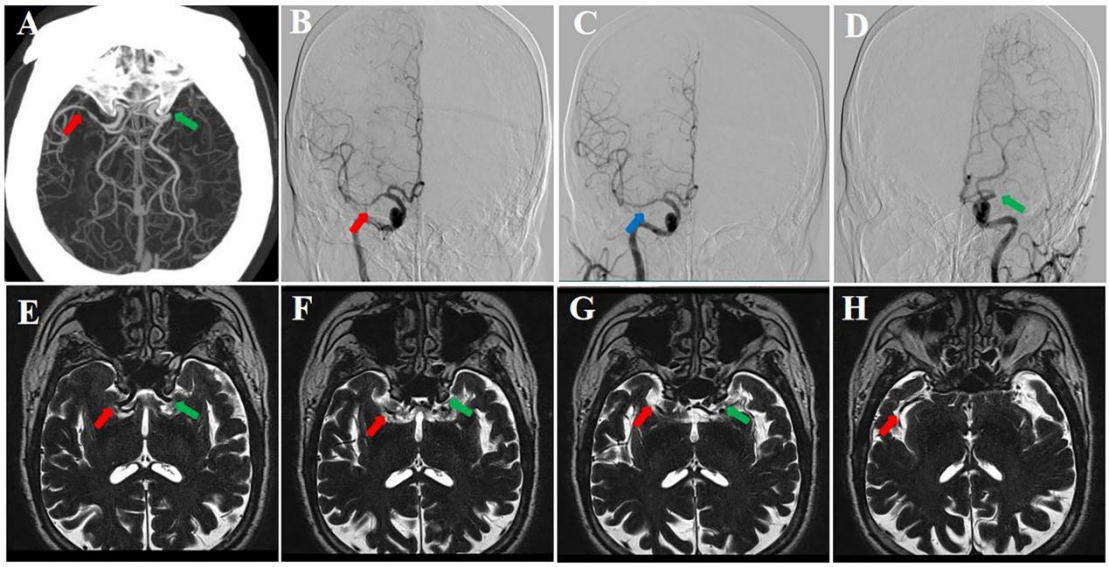
Supplementary figure 1 The CTP of patients 1-4. A-D The CTP figures of four MCA occlusion patients (including two RMCA occlusion and two LMCA occlusion)**.** Red arrows point the occlusion MCA.



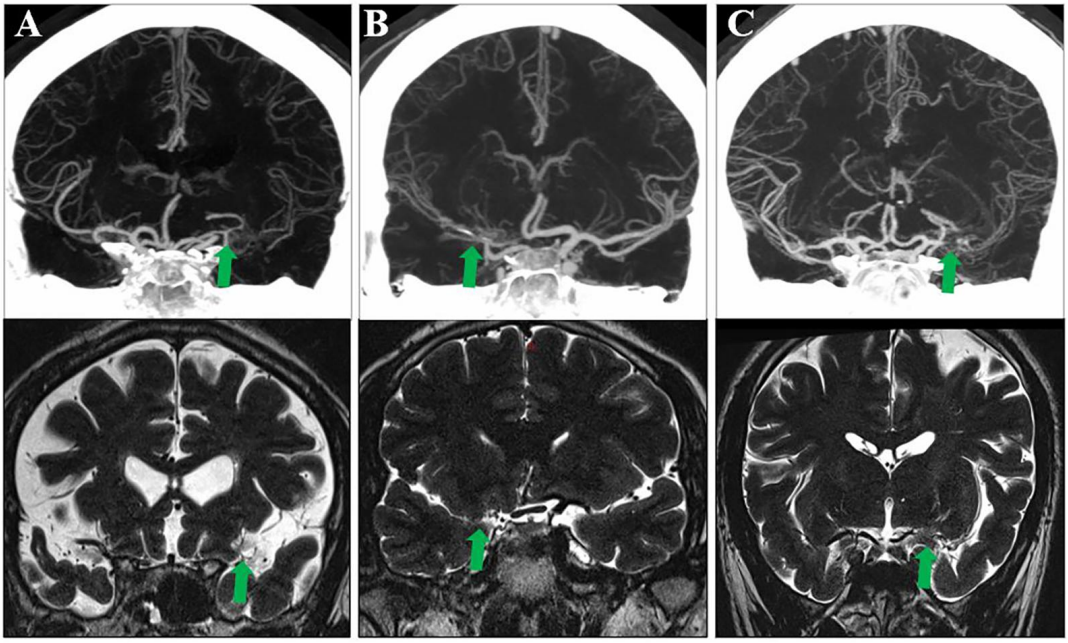
Supplementary figure 2 The DSA before and after the EVT of patients 1-4. A-D The comparison of these four MCA occlusion patients before and after EVT. Red arrows point the occlusion MCA before EVT, blue arrows point the occlusion MCA after EVT. DSA Digital subtraction angiography, EVT Endovascular treatment.



Supplementary figure 3 The image data of CTA, MCPAS and HRMRI of patient 2. (A) CTA shows that the patient's LMCA is completely occluded. (B) MCPAS shows the morphology of the patient's LMCA, with a measured vessel luminal diameter of 2.4mm. Red arrows point the occlusion MCA. (C) HRMRI shows the morphology of the patient's LMCA, with a measured vessel luminal diameter of 1.4mm.



Supplementary figure 4 The CTA, MAPAS and DSA of patients 5 manifested as RMCA stenosis and LMCA occlusion. (A) CTA displays the patient's the LMCA was occluded, with severe stenosis in the RMCA. (B, C) The DSA displays the MCA before EVT. (D) The DSA displays the RMCA after EVT. (E-H) Multiple MCPAS images show the morphology of bilateral MCA in the patient.Red arrows point the occlusion RMCA before EVT, blue arrows point the occlusion RMCA after EVT, green arrows point the occlusion LMCA.



Supplementary figure 5 The examples of MCPAS excluding patients from EVT.

(A-C) These three patients' occluded MCA did not show contrast in either CTA or MCPAS. Therefore, EVT treatment was not performed on these three patients.