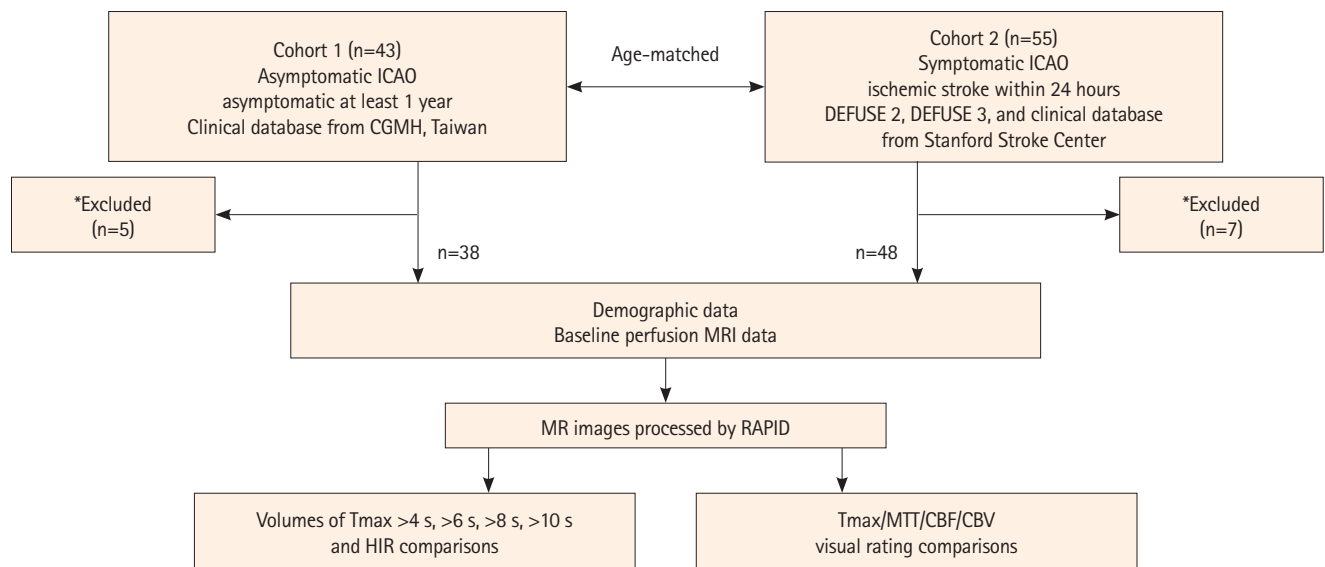**Supplementary Table 1.** Test characteristics for predicting an acute symptomatic internal carotid artery occlusion based on perfusion patterns
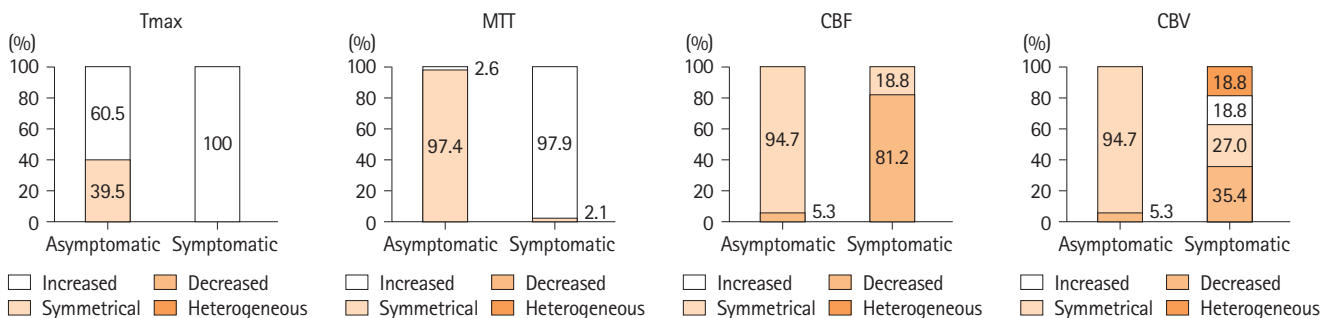
Lesion characteristics	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)	Accuracy (%)
Tmax >10 s lesion of >2 mL	97.9*	97.4†	97.9	97.4	97.7
Increased Tmax	100.0	39.5	67.6	100.0	73.3
Increased MTT	97.9	97.4	97.9	97.4	97.7
Decreased CBF	81.2	94.7	95.1	80.0	87.2
Decreased CBV	35.4	94.7	89.5	53.7	61.6

PPV, positive predictive value; NPV, negative predictive value; MTT, mean transit time; CBF, cerebral blood flow; CBV, cerebral blood volume; CI, confidence interval.
*95% CI=0.88–1.00; †95% CI=0.85–1.00.

Supplementary Figure 1. Flowchart of the study design. ICAO, internal carotid artery occlusion; CGMH, Chang Gung Memorial Hospital; MRI, magnetic resonance imaging; CBV, cerebral blood volume; CBF, cerebral blood flow; MTT, mean transit time; HIR, hypoperfusion intensity ratio; DEFUSE 2, Diffusion and Perfusion Imaging Evaluation for Understanding Stroke Evolution 2; DEFUSE 3, Endovascular Therapy Following Imaging Evaluation for Ischemic Stroke 3. *Patients were excluded due to >50% stenosis at contralateral internal carotid artery/middle cerebral artery or poor quality of images.

Supplementary Figure 2. Qualitative assessment of perfusion maps from patients with asymptomatic and symptomatic internal carotid artery occlusion (ICAO). A total of 38 asymptomatic and 48 symptomatic ICAO cases were rated. For each map, the affected hemisphere was rated as showing a lesion that was "increased," "symmetrical" (i.e., no apparent lesion), or "decreased" compared to the other hemisphere. If the affected hemisphere showed regions of decreased signal as well as regions of increased signal, the scan was rated as "heterogeneous." This finding was only noted on the CBV map in a minority (19%) of the patients with symptomatic ICAOs. MTT, mean transit time; CBF, cerebral blood flow; CBV, cerebral blood volume.